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ABSTRACT

The Attorney General was directed by Congress to prepare a report on whether the United States could recover, from any persons determined liable, the amounts expended to detect, contain, or remove hazardous asbestos products from schools. The general background portion of this report contains the results of the factual research and investigation. It briefly sets forth some of the uses of asbestos and describes the asbestos industry and the diseases attributed to inhalation of asbestos fibers--asbestosis, lung cancer, and mesothelioma. This section also explores documents that indicate industry knowledge of the dangers of asbestos fibers as early as the 1930s. Asbestos problems in the schools are discussed and suits already filed by two school districts are described. The legal issues portion of the report commences with a summary of the problems of duty, breach of duty, injury, limitations, and economic loss. Equitable and common law theories of recovery and the potential liability of parties other than asbestos manufacturers are discussed. The report concludes that litigation by school authorities, rather than by the federal government, should be quickly investigated as one potential means of reducing the fiscal impact on taxpayers of abating asbestos hazards in the schools. (Author/MLF)

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97th Congress }
1st Session }

COMMITTEE PRINT

THE ATTORNEY GENERAL'S ASBESTOS
LIABILITY REPORT TO THE CONGRESS

PURSUANT TO SECTION 8(b) OF THE
ASBESTOS SCHOOL HAZARD DETECTION
AND CONTROL ACT OF 1980

COMMITTEE ON EDUCATION AND LABOR
UNITED STATES
HOUSE OF REPRESENTATIVES



NOVEMBER 1981

Printed for the use of the Committee on Education and Labor
CARL D. PERKINS, *Chairman*

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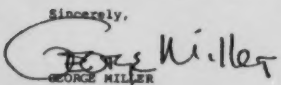
Dear Mr. Chairman:

As you know, Section 8(b) of the Asbestos School Hazard Detection and Control Act of 1980 (P.L. 96-270) directed the Attorney General of the United States to conduct a study of means by which the United States could recover the costs of removing or containing friable asbestos from public school buildings, and within one year after enactment, to submit to the Congress the results of that study, together with any appropriate recommendations. That study has been completed, and "The Attorney General's Asbestos Liability Report to the Congress" was forwarded to the Congress on September 21, 1981.

In his Report the Attorney General deals not only with the rights of the United States to recover damages resulting from the removal or containment of friable asbestos in schools; but it provides extensive information on the rights of state and local governments, school boards, and public school districts, and how they might recover damages due to the expense of removal or containment of friable asbestos in school buildings. In this regard, I believe the Attorney General's Report is a most valuable document which will be of considerable assistance to local officials in enabling them to better protect the legal rights of the local school districts.

The Report unfortunately did not receive broad distribution. In his letter to you dated September 21, 1981, transmitting the Report to the Congress, a copy of which is enclosed, the Attorney General encouraged our Committee to consider distributing it to state and local authorities. In spite of subsequent urging, the Justice Department continues to argue that the Congress has responsibility for dissemination of the Report. I, therefore, request that this most important document be reproduced so that it can be made available to the public. I think that ten (10) copies per state would not be excessive and suggest that five hundred (500) copies should be printed.

Sincerely,


GEORGE MILLER
Chairman
Subcommittee on Labor Standards

(III)



Office of the Attorney General
Washington, D. C. 20530

September 21, 1981

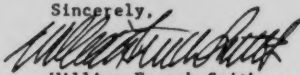
Honorable Carl D. Perkins
Chairman, Committee on Education
and Labor
United States House of Representatives
Washington, D.C. 20515

Dear Chairman Perkins:

The purpose of this letter is to transmit to you
THE ATTORNEY GENERAL'S ASBESTOS LIABILITY REPORT TO THE
CONGRESS, prepared pursuant to Section 8(b) of the Asbestos
School Hazard Detection and Control Act of 1980, Pub. L. 96-270
(June 14, 1980).

In the absence of federal funding, state and local
school officials continue to have responsibility for taking
appropriate action to protect the health and safety of school
children and employees. I encourage your committee to consider
making the Report immediately available to state and local
school authorities.

Sincerely,


William French Smith
Attorney General

(V)

ASBESTOS LIABILITY REPORT
SUMMARY AND RECOMMENDATIONS

As a result of occupational health problems associated with inhalation of asbestos fibers, people have become concerned that asbestos products in schools may pose a hazard to the future health of children now in school. Accordingly, on June 14, 1980, the Asbestos School Hazard Detection and Control Act of 1980 was enacted. 1/ The purpose of the Act is to assist states and local educational agencies to ascertain the extent of the danger to the health of school children and employees from asbestos products in schools; and to provide grants assisting the identification of asbestos hazards and loans for the mitigation of asbestos hazards.

Section 8(b) of the Act directed the Attorney General to:

conduct an investigation to determine whether, by using all available means, the United States should or could recover, from any person determined by the Attorney General to be liable for such costs, the amounts expended by the United States to carry out this Act [federal grants and loans to detect, remove and contain friable asbestos in the schools]. Within one year after the effective date of this Act, the Attorney General shall submit to the Congress a report containing the results of the study, together with any appropriate recommendations. 2/

A detailed report setting forth the results of our factual investigation and legal research is attached. Our summary, and recommendations, are as follows:

Asbestos is a term for a group of naturally occurring materials that separate into fibers. Asbestos is a valuable product with many uses, including noise and heat insulation and use as a binder.

However, tiny asbestos fibers, if released into the air and then inhaled into the lungs, can cause death from mesothelioma, and death or disablement from asbestosis and lung cancer. General Background, Section III, infra.

1/ Pub.L. 96-270 (June 14, 1980), 94 Stat. 495, 20 U.S.C. 3601 et seq.

2/ 20 U.S.C. 3607(b).

At least one court has concluded that knowledge of the dangers of airborne asbestos fibers can be attributed to the asbestos manufacturing industry as early as the mid-1930's and "conduct throughout the industry despite the danger has been summarized as one of indifferent silence." Hardy v. Johns-Manville Sales Corp., 509 F.Supp. 1353, 1355 (E.D. Tex. 1981).

As many as 10,000 cases have been filed by people, usually workers, alleging death or injury resulting from asbestos fibers since the landmark decision of Borel v. Fibreboard Paper Products Corp., 493 F.2d 1076 (5th Cir. 1973), cert. denied, 419 U.S. 869 (1974), which allowed recovery by an asbestosis and mesothelioma victim under the tort theory of strict liability, predicated on "failure to warn" and "failure to test."

Despite the danger, the industry was "silent with respect to the dangerous relationship between asbestos and cancer." Hardy v. Johns-Manville Sales Corp., supra, 509 F.Supp. at 1355. Further, a convincing case can be made based upon industry documents produced in litigation, that certain industry officials actively sought to obscure data linking asbestos and fatal diseases. General Background, Section IV, infra.

Mesothelioma, like asbestos, has a long latency period. The latency period -- 35 to 40 years 3/ -- is so long that it is not yet possible to correlate mesothelioma deaths with the use of sprayed asbestos in the schools, which occurred primarily between 1946 and 1972. Unlike asbestosis, which generally requires exposures over a long period of time, mesothelioma, "extraordinarily painful and always fatal . . . may result from one exposure to asbestos dust or fibers." Hardy v. Johns-Manville Sales Corp., supra, 509 F.Supp. at 1355.

Congress has determined that "medical science has not established any minimum level of exposure to asbestos fibers which is considered to be safe to individuals exposed to fibers" and "the presence in school buildings of friable or easily damaged asbestos creates an unwarranted hazard to the health of the school children and school employees who are exposed to such materials." 20 U.S.C. 3601(a)(3), (6).

Not all uses of asbestos are dangerous. If the fibers are encased in a hard product such as tile, there should ordinarily be no danger, although if hard materials are damaged, fibers may be released. Accordingly, the Act is concerned with "friable or easily damaged asbestos." 20 U.S.C. 3601(a)(6). The most common use with which we are concerned is sprayed-on, "friable" asbestos

3/ Selikoff, Hammond and Seidman, Latency of Asbestos Disease Among Insulation Workers in the United States and Canada, Vol. 46, No. 12, CANCER (Dec. 15, 1980).

-- most often used on classroom, corridor, shop, gym, music room, boiler room, or storage room ceilings, in a noise insulation or decorative product. "Friable" means that the substance, which has a spongy, irregular, or textured appearance, can be crumbled by hand. Asbestos may constitute from two to fifty per cent or more of the sprayed product.

Spraying for fireproofing and insulation purposes of materials containing more than one percent asbestos was banned by the Environmental Protection Agency in 1973 (and in 1978 for virtually all purposes), because of the hazard posed by release of fibers into the air during the spraying. The application of asbestos products by trowel, however, has not been banned.

Asbestos fibers are microscopic and sub-microscopic in size so that once disturbed they remain airborne for extended periods of time. Even after settling to the ground, the fibers will again become airborne if disturbed by walking or sweeping -- normal activities in classrooms and corridors.

Friable asbestos will release fibers into schoolroom air if disturbed by vibrations from operation of machinery, maintenance activities, ventilation systems, product deterioration, intentional or accidental student contact, and water damage. In New Jersey, experts visited a sample of 48 asbestos-containing schools, "and 33 of these were found to have visible evidence of damage to asbestos contents." ^{4/} The preparers of this Report have personally observed in schools visited, evidence of fiber release including: places where large sections of friable asbestos have simply fallen away as a result of deterioration, loss of bonding, or water damage; gouge marks presumably made by long-handled objects in shop classrooms; holes made by thrown objects including an embedded pencil; and the recollections of two teachers regarding the falling away of pieces of asbestos for many years from ceilings in their classrooms.

Fortunately, it appears that most of the nation's schools do not contain any friable asbestos. However, in the schools that do contain friable asbestos -- and these schools range geographically from Massachusetts to California -- the square footage of coverage and therefore the cost of removal or containment, can be quite extensive. The Cinnaminson Township Board of Education, Burlington County, New Jersey, alleges that it has expended over one million dollars to deal with the asbestos problem in three schools. As an example of the extent of the problem, approximately 20% of New York City public schools and 10% of New Jersey schools have been found to contain asbestos materials in student use areas. ^{5/}

^{4/} S.Rep. No. 96-710, 96th Cong., 2d Sess. 7 (1980).

^{5/} Id.

Abatement of school asbestos hazards currently rests in the hands of local and state governments, since Congress has not appropriated any funds under the Act to make federal grants and loans. Also, the Environmental Protection Agency has cancelled plans to promulgate a rule under the Toxic Substances Control Act requiring school authorities to take corrective action -- it "has concluded that identifying hazards will provide local school districts with enough information to take corrective action on their own." 6/

FINDINGS AND RECOMMENDATIONS

1. The parties most likely liable are the asbestos processors and manufacturers, and manufacturers of the asbestos spray-on products. It will be necessary to establish that the known danger to asbestos workers should have caused these parties to: (1) test to determine whether friable asbestos could be hazardous as a result of indoor environmental exposures; and (2) warn that asbestos fibers had caused deaths and injuries in occupational settings, and if released from asbestos products, could prove harmful as a result of indoor environmental exposures. General Background, Sections III, IV, *infra*. In the case study we examined in the greatest detail, the school district was not even informed that the products applied in its schools contained asbestos. However, to establish liability, it will also be necessary to prove either as a matter of law or by trial of a factual issue, that friable asbestos is hazardous. The desirability of including as defendants other parties in addition to asbestos and asbestos spray-on manufacturers, such as distributors, installers, architects, and contractors, would best be determined on a case-by-case basis.
2. It is often possible through investigation, architect or contractor recollection, plans and specifications, or state archives, to ascertain the identity of the manufacturer of the asbestos product used in a particular school. General Background, Section VI, *infra*.
3. Despite the potential liability of the asbestos and asbestos spray-on manufacturers, the United States should not attempt to recover for the elementary reason that no funds have been appropriated to make federal grants and loans under the Act. (Moreover, there are no indications that funds will be appropriated in the future).
4. Even if funds were to be appropriated, this recommendation would remain unchanged for the following reasons:

6/ , 46 Fed. Reg. 23,726 (April 27, 1981).

(a) The fiscal impact of providing federal aid to school authorities to remedy the asbestos problem should be understood in advance. While recovery may be obtained through litigation in some some situations, it is by no means certain. The Act as currently enacted offers what may be an illusory hope of reducing federal expenditures through litigation. Thus, if federal funds are provided, the burden should be understood to fall on the federal taxpayer, unless liability is imposed on the asbestos manufacturer by statute similar to the Superfund and Black Lung programs, and similar to a provision in the Asbestos School Hazard Detection and Control Act deleted prior to enactment. ^{2/}

(b) Even though most schools apparently do not contain friable asbestos, there are still a large number of situations of potential liability across the nation. Case-by-case litigation brought by the United States under state law, is a comparatively inefficient means of addressing the problem. If Congress is convinced that liability should be federally imposed on the manufacturers, other options should be reconsidered, including imposing liability or creation of a federal cause of action with a special statute of limitation. Also, appropriate federal agencies could review their authorities under such statutes as the Toxic Substances Control Act and the Consumer Products Safety Act to determine whether the school asbestos problem should be addressed by administrative action.

(c) Remedies can be more efficiently sought by local and state authorities, because the outcome of litigation will depend on distinct state laws and varying factual situations.

5. Although this Report recommends that the United States should not sue, the government could recover if suit were brought to recover federal funds ultimately expended. The viable theories of recovery include:

- (a) equitable restitution, Restatement of Restitution, §115;
- (b) strict liability, Restatement of Torts, §402A;
- (c) negligence; and

^{2/} The present section 8 mandating this Report was substituted for the industry detection fund provision in the House Committee on Education and Labor mark-up of H.R. 1524 on May 1, 1979, which bill was then substituted into H.R. 3282 and reported out the same day. See generally, Usery v. Turner-Elkhorn Mining Co., 428 U.S. 1 (1976) (upholding imposition on mining operators of burden of providing benefits to Black Lung victims).

- (d) breach of implied warranties of merchantability and fitness for a particular purpose.

The basis for the restitution claim is the contention that the asbestos manufacturers have a duty to abate the asbestos hazard in the schools, and that public authorities performing that duty have a right to restitution from the manufacturers.

The strict liability and negligence claims are predicated on the manufacturers' failure to warn of the dangerous propensities of asbestos fibers, and failure to test to determine if friable asbestos could be hazardous. The implied warranty claims are based on the unsuitability of the product for its intended use.

6. The primary obstacles to successful litigation are:

(a) A majority of American decisions have held that "economic loss" is not recoverable in tort. However, the presence of a hazardous product creates a situation in which it may be persuasively contended that tort recovery is appropriate against a manufacturer that sold asbestos products used in schools in the absence of warnings or tests.

(b) Because of the time elapsed since installation of the asbestos, usually at least nine years, statutes of limitation constitute potential obstacles to recovery. However, the asbestos manufacturers continue to contend that friable asbestos in schools is not dangerous. The manufacturers are faced with the dilemma of on the one hand arguing that the danger was obvious so as to commence the running of a "discovery" or "manifestation" statute of limitation, while on the other hand denying, even today, that the product is dangerous.

7. School authorities faced with substantial expenditures in removing or containing friable asbestos should, as a matter of the utmost urgency, consult with qualified counsel to determine whether they should file litigation on their own, as at least three school districts already have done. Urgency is necessary because of statutes of limitation. Litigation on the theories set forth in recommendation 5, supra, may prove to be a desirable method of reducing fiscal burdens on taxpayers. School districts contemplating litigation should consult with counsel to insure that adequate tests and other measures are performed and retained to support the proof requirements of litigation. Finally, we note that in the three cases we know of filed by school districts to date, each district retained qualified products liability counsel.

8. Though the problem of friable asbestos in the schools is in one sense a national one, the absence of a federal law assigning liability suggests that the better solution is at the local or state level. The primary goal is to remedy hazardous situations

(XII)

as quickly as possible. Illusory hopes of federal assistance can obstruct rather than aid attainment of this goal.

At the same time, it is clearly in the national interest that those school districts facing substantial abatement expenditures be able to recover from those who manufactured and sold asbestos products without warning of the dangers of breathing asbestos fibers. School districts should keep the Department of Justice informed about such litigation so that the Department can determine whether assistance in the litigation is appropriate. The Department contact for counsel representing state or local authorities is:

Policy, Legislation and Special Litigation Section
Land and Natural Resources Division
Room 2615 Main Justice Building
Washington, D.C. 20530
(202) 633-2847

CONCLUSION

Litigation, but by school authorities rather than the federal government, should be quickly investigated by school authorities and their counsel as one potential means of reducing the fiscal impact on taxpayers of abating asbestos hazards in the schools. The federal government should support local school authorities in such litigation, but should not bring such actions on its own.

(XIII)

INTRODUCTION TO REPORT

The Attorney General was directed by Congress in Section 8(b) of the Asbestos School Hazard Detection and Control Act of 1980 (20 U.S.C. 3607(b)), to prepare a report to the Congress on whether the United States "should or could recover, from any person determined by the Attorney General to be liable for such costs," amounts expended to detect, contain, or remove hazardous asbestos products from the schools.

This Report addresses the issue from the standpoint of the school districts as prospective plaintiffs, because if the United States were to sue, it would stand in the shoes of the school districts.

The Report is divided into two major portions -- General Background and Legal Issues.

The General Background portion contains the results of the factual research and investigation. 1/ Section I briefly sets forth some of the uses of asbestos for the purpose of providing general information.

1/ The Department solicited in writing comments pertaining to the subject of this Report from a broad spectrum of potentially interested groups, including the National Association of Attorneys General, National District Attorneys Association, Asbestos Information Association/North America, Environmental Defense Fund, American Federation of Teachers, Asbestos Textile Institute, International Association of Heat and Frost Insulators and Asbestos Workers, National Congress of Parents and Teachers, National PTA, National School Boards Association, and Council of Chief State School Officers.

(Footnote 1/ continued on next page)

(1)

Section II describes the asbestos industry to provide an understanding of the segments of the industry containing potential manufacturer defendants.

Section III describes the diseases attributed to inhalation of asbestos fibers -- asbestosis, lung cancer, and mesothelioma.

Section IV explores the documents recently discovered in liability litigation by workers against asbestos manufacturers, which indicate that some asbestos industry companies

(Continuation of Footnote 1/)

The Asbestos Information Association/North America, an industry association, was the only group to provide written comments. Letters dated April 23, 1981 and May 4, 1981, prepared by the Washington office of the law firm of Kirkland & Ellis, generally suggested that the United States should not, and probably in most cases could not, recover from asbestos manufacturers. We thank the Association for its detailed letters. We also thank the school officials of the District of Columbia and Prince George's County, Maryland; the Building Commissioner and other officials of Newton, Massachusetts; the Maryland State Department of Education; and the law firm of Brown, Connery, Culp, Willie, Purnell and Green, of Camden, New Jersey, representing in litigation the Cinnaminson Township Board of Education, Burlington County, New Jersey, for their extensive cooperation in the Department's factual investigation which attempted to ascertain answers to such practical questions as: "Can the identity of manufacturer defendants still be ascertained?" and "What warnings, if any, were furnished with the product?"

The Department also consulted with representatives of the federal Asbestos Hazards School Safety Task Force, established by Section 3 of the Act, 20 U.S.C. 3602.

and officials, and an industry trade association, had knowledge of the dangers of asbestos fibers as early as the 1930's. What asbestos manufacturers knew or should have known is important for purposes of establishing "failure to warn," "failure to test," and "foreseeability of harm," which are predicates for the theories of recovery discussed under Legal Issues.

Section V discusses asbestos problems in the schools. "Friable" asbestos -- sprayed ceiling coatings which can be pulverized by hand pressure -- poses the principal threat of releasing asbestos fibers into the air. Although airborne levels of asbestos fibers released from building materials are low, it was pointed out in Section III discussing asbestos related diseases, that even very low levels of exposure to asbestos fibers have caused mesothelioma.

Finally, Section VI sets forth several case studies based on the cases already filed by two school districts, seeking to recover the costs of asbestos removal from asbestos manufacturers. Also, this section sets forth the Department's observations of the asbestos problem in schools in three school districts which were visited. The conclusion is that friable asbestos products were installed in the schools in the absence of warnings of the dangers posed by the inhalation

of asbestos fibers. Also, it is often possible through investigation to ascertain the identity of the manufacturers of asbestos products used in the schools.

The Legal Issues portion of the Report commences with a summary of duty, breach of duty, injury, and limitations issues. The proof required of a plaintiff in a products liability case of this kind is largely the same, regardless of the particular theory of action. It is emphasized at the outset that in answering the legal question of whether the United States could recover, two legal issues stand out. The first issue is whether the cost of removing asbestos -- which would probably be characterized by many courts as "economic loss" -- can be characterized as a tortious injury for purposes of establishing the "breach of a duty" element of a restitution or tort products liability theory of recovery. The second issue is whether, in view of the fact that asbestos products in most cases were installed in the schools anywhere from nine to thirty-five years ago, statutes of limitation operate as a bar to recovery. The issues are intertwined in that it will be necessary, in many jurisdictions, to establish that the particular form of "economic loss" represented by asbestos removal costs is a tortious injury, in order to obtain the benefit of more appropriate

and more favorable statutes of limitation than are applicable to contractual causes of action. The basic task of a school district plaintiff will be to establish that its cause of action should not be viewed to have accrued or manifested itself until a time within the period of the applicable statute of limitation -- for example, less than two years ago under a two-year statute.

Section I of the Legal Issues portion discusses the economic loss issue, and states that the failure to warn, coupled with the hazardous nature of the product (Sections III and IV, General Background, infra), support the conclusion that the "economic loss" caused by asbestos school hazards should be characterized as tortious injury. This section precedes the discussion of potential theories of recovery, because it is a critical legal issue raised in answering the question posed by Congress, "could the United States recover."

Section II contains a discussion of the likely equitable and common law theories of recovery. Equitable restitution, and the tort products liability theories of strict liability and negligence, are the likely theories of recovery. Implied warranty is discussed very briefly. Contractual statutes of limitation usually accrue at the time of delivery of the product rather than manifestation of injury, so that an

implied warranty theory is likely time-barred in many jurisdictions. Misrepresentation is also discussed as a potential theory of action not encumbered by the economic loss obstacle. Nuisance is concluded to be unavailable to school districts as a cause of action. Section II F discusses legal arguments that can be made as to whether friable asbestos constitutes a hazard, including argument based on Congress' findings contained in the Act requiring this Report, and previous judicial rulings supporting a collateral estoppel argument. However, no attempt is made to try the factual case in this Report. If the courts do not find friable asbestos hazardous as a matter of law for purposes of establishing a restitution or products liability claim, this issue will be determined by juries or judges on the basis of expert scientific and medical testimony. Finally, Section II G concludes that state law rather than "federal common law" will probably be determinative of substantive, as well as procedural, issues.

Section III discusses potential federal remedies under the Toxic Substances Control Act and the Consumer Product Safety Act. It is concluded that absent administrative action, recovery under these Acts is unlikely. No position is taken as to the desirability of administrative action under these two Acts.

Section IV discusses in very general terms the potential liability of parties other than asbestos manufacturers -- such as distributors, general contractors and architects. No position is taken on the liability of such other parties and it is recommended that decisions whether to include other parties as defendants be made on a case-by-case basis.

Finally, Section V discusses the statute of limitation issue. As important as the limitation issue is, it is a subject on which it is difficult to provide answers in a general report of this nature. Outcomes under the limitation statutes will depend on the varying laws of each state, and also may be determined by specific factual situations.

GENERAL BACKGROUND

I. USES FOR ASBESTOS

The word asbestos, of Greek origin, means "not extinguished," recognizing its most prominent physical characteristic -- resistance to fire. Asbestos has been used since the first century because of this characteristic. As technology advanced, manufacturers introduced asbestos into a variety of products, particularly basic building materials, to enhance their strength and durability. 2/

Asbestos is a generic term applied to a wide chemical variety of naturally occurring mineral silicates that separate into fibers. The three major forms of asbestos minerals are chrysotile ("white asbestos"), amosite ("brown asbestos"), and crocidolite, ("blue asbestos"). Specific attributes and properties vary with the different forms, but fibers of all three forms share the commercial values of being incombustible, possessing tensile strength, and having thermal and electrical insulating properties. Asbestos fibers may be packed, woven or sprayed. The fibers also share the characteristics of durability, flexibility, strength and

2/ Oversight Hearings on Asbestos Health Hazards to School-children: Hearings on H.R. 1435 and H.R. 1524 Before the Subcomm. on Elementary, Secondary, and Vocational Education, 96th Cong., 1st Sess., 220 (1979)(statement of Joseph Mohen).

resistance to wear, making asbestos a well suited element for approximately 3,000 separate commercial, public and industrial applications. 3/

Since the turn of the century, many building codes have required that the steel beams and columns in high rise buildings be protected with a suitable fire resistant coating. Asbestos-containing spray-on coatings became a popular lightweight fire-proof medium used extensively to satisfy this requirement. Asbestos-containing coatings were widely used for fireproofing, acoustical, and decorative applications from 1950, through the early 1970s. 4/

Spray application of asbestos offered the advantage of rapidly covering large or irregular surfaces evenly and efficiently. The application of asbestos as a sprayable material expanded rapidly during World War II when it was widely used for insulation in ships and submarines. In its use for thermal insulation and acoustical treatment, varying percentages of asbestos are mixed with other mineral fibers and mineral binders. Spray application is the primary use with which the schools are now concerned.

3/ U.S. Environmental Protection Agency, Asbestos-Containing Materials in School Buildings: A Guidance Document, Part 2, I-1-1 - I-1-2 (1979).

4/ 1979 Hearings, supra note 2, (statement of James P. Leineweber, Ph.D.) at 178-79.

Beginning in the 1950s blended fibers were used on the underside of ceilings, and in boiler rooms and mechanical rooms to prevent the loss of heat (thermal insulation) and the transmission of sound (acoustical insulation) to other areas. 5/ "[S]ubstantial amounts of asbestos, particularly in sprayed form, have been used in school buildings, especially during the period 1946-1972." 6/

5/ 1979 Hearings, supra note 2, (statement of Herbert L. Levine) at 213.

6/ 20 U.S.C. 3601(a)(4).

II. DESCRIPTION OF THE ASBESTOS INDUSTRY

The purpose of this section is to provide some understanding of the segments of the asbestos industry as an aid in considering potential defendants and theories of liability.

The movement of asbestos within the asbestos industry is illustrated below:

Mining---	Milling---	Primary---	Secondary Industries---	Consumer 7/ Industries
		Industries		
			Consumer Industries	

The mining segment of the industry is the first to make contact with asbestos. From 1971 to 1975, between 80 to 85% of the asbestos consumed domestically was imported, and of the imported asbestos, nearly 96% originated in Canada.

The milling segment of the industry is very closely connected to the mining segment because mills generally are located near the mines. Moreover, the mines and mills generally are owned and operated by the same parent corporations.

The mining segment of the industry is also closely connected to the primary industries -- the product manufacturers who initially fabricate asbestos products. Four corporations,

7/ U.S. Environmental Protection Agency, Chemical Market Input/Output Analysis of Selected Chemical Substances to Assess Sources of Environmental Contamination: Task III Asbestos, 20 (1978).

Johns-Manville Corporation, Raybestos-Manhattan, Inc., Jim Walter Corporation, and ASARCO, Inc., not only control large mining interests in Canada, but also control nearly 35% of the American asbestos products market. 8/ (See Tables 1 and 2 for the major manufacturers and miners of asbestos, and major producers of asbestos products, in the Appendix to this section.)

Secondary industries continue the manufacturing process with an intermediate asbestos product -- one in which the asbestos has previously been modified in a primary industry, by further processing, modifying or fabricating it to produce either another intermediate product to be further processed, or a finished product. Finally, consumer industries purchase a finished asbestos-containing product from a primary or secondary industry, and apply, install, erect, or consume the asbestos-containing product without further physical modification of the product. 9/ Table 3 in the Appendix illustrates the diversity of transactions among primary, secondary and consumer asbestos industries.

Spray insulation products utilized 2% of the asbestos consumed in the United States in 1971. 10/ Sprayed asbestos products

8/ Id. at 22.

9/ Id. at 20.

10/ Asbestos, January 1973, at 38.

were advertised in Asbestos magazine (1934-1973) and in Sweet's Catalogue Service - Architectural Files (1947-1971). The companies and their respective products found in these sources include:

<u>Company</u>	<u>Product</u>
Sprayo-Flake	Sprayo-Flake
Sprayed Insulation Inc.	Spraykote
Asbestos Fibres Inc. (Subsidiary of Sprayed Insulation Inc.)	Spraycraft (Formerly Spraykote)
Smith & Kanzler Inc. (Seems to be new name for Sprayed Insulation Inc. after 1955)	Spraycraft (Formerly Spraykote)
National Gypsum	Thermacoustic (Asbestos not specifically identified)
U.S. Gypsum	Protokote Textolite (Asbestos not specifically identified)
Asbestospray Corp. (Later bought by Spraycraft Corp.)	Asbestospray
Air-O-Therm	Jet-Sulation) Asbestos not Jet-Acoustics) present after 1965
Columbia Acoustics & Fireproofing Co. (CAFCO)	CAFCO Spray Blaze-Shield Sound-Shield Heat-Shield

<u>Company</u>	<u>Product</u>
U.S. Mineral Products Co. (Formerly CAFCO)	CAFCO Spray CAFCO Sound-Shield CAFCO Sound-Shield 85
Sprayon Insulation & Acoustics, Inc.	Spraydon
Sprayon Research Corp.	Spraydon
Keasbey & Mattison Co. (Later sold to Certain-Teed)	Sprayed "Limpet" Asbestos
Armstrong Contracting & Supply Corp.	Sprayed "Limpet" Asbestos
Armstrong Cork Co.	Armstrong Armaspray 16
Baldwin-Ehret-Hill Co. (Later bought by Keene Corp.)	Pyrospray Monospray
Sprayed Insulations Ltd.	Silbestos
Benjamin Foster Co., Div. of Amchem Products	Foster Spray
Aaer-Sprayed Insulation Inc., Div. of Rogers Insulating & Roofing Co.	Aaer-Sprayed SprayCraft
Wilkin Insulation Co.	Thermo-Spray Thermo-Coustic
U.S. Insulation Sales Corp.	Thermo-K Insulation Thermo-Kote

In separate lawsuits brought by school districts seeking to recover costs of removing asbestos from schools, the products and manufacturer defendants have been "Sprayolite" manufactured by National Gypsum Co., and "Audicote" manufactured

by U.S. Gypsum Co. 11/

Probable defendants in litigation seeking to recover the costs of removing or containing asbestos in the schools, include the companies mining, milling and processing asbestos, as well as the companies manufacturing the finished friable spray-on products actually used in the schools.

11/ See discussion in the Case Studies section of this Report, infra.

AppendixTable 1 Captive Fiber Sources for the Major American Asbestos Product Manufacturing Firms. 12/

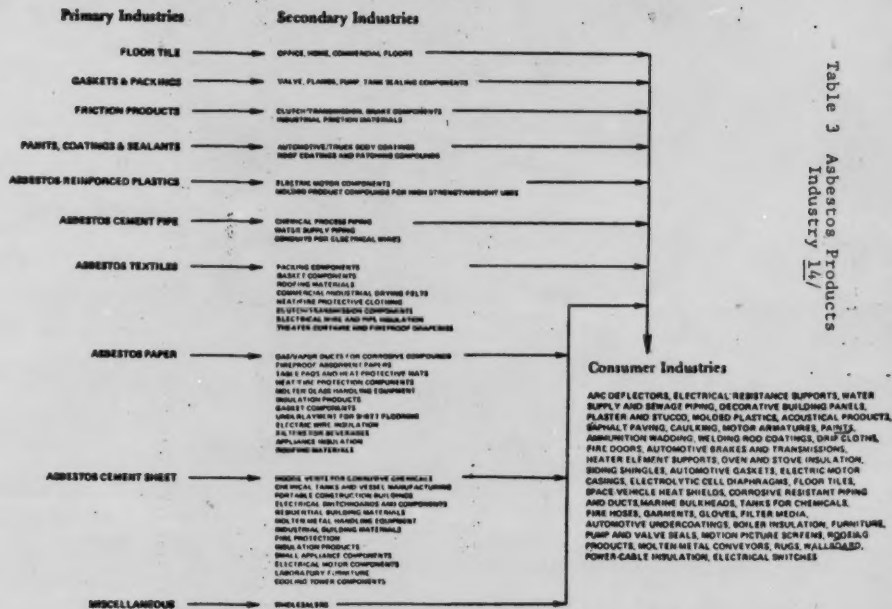
Company	Mine	Fiber-Producing Capacity (Short tons/year)
Canadian Mines		
ASARCO	Lake Asbestos of Quebec, Ltd.	150,000
Johns-Manville Products Corp.	Canadian Johns-Manville Co., Ltd.	835,000
Jim Walter Corp.	Carey-Canadian Mines, Ltd.	200,000
Raybestos-Manhattan, Inc.	Cassiar Asbestos Corp. (partial interest)	110,000
General Dynamics Corp.	Asbestos Corp., Ltd. (54% interest)	500,000
American Mines		
Atlas Asbestos Co.	Atlas Asbestos Co.	25,000
Union Carbide Corp.	Union Carbide Mines	10,000
Johns-Manville Products Corp.	Coalings Asbestos Co.	(closed at present)

12/ U.S. Environmental Protection Agency, supra note 7, at 23.

Table 2 Twenty of the Largest U.S. Asbestos Product Manufacturers. ¹³

Company	Estimated 1975 Asbestos-Product Sales (\$ millions)	Approximate Percentage of the U.S. Market
1. Johns-Manville Corp.	240	18.0
2. Raybestos-Manhattan, Inc.	140	10.5
3. GAF Corp.	114	8.5
4. Bendix Corp.	72.5	5.5
5. Jim Walter Corp. (Celotex)	71	5.5
6. Armstrong Cork Co.	60	4.5
7. Illinois Central Industries (Abex Corp.)	60	4.5
8. Flintkote Co.	50	3.5
9. Asten-Hill Mfg. Co.	40.5	3.0
10. H.K. Porter Co.	37.6	3.0
11. Certain-Teed Corp.	33.1	2.5
12. Nicolet Industries	30.7	2.0
13. Kentile Floors Inc.	29.5	2.0
14. National Gypsum Co.	27.1	2.0
15. Royal Industries	24.5	2.0
16. Uvalde-Rock-Asphalt Co.	21.6	1.5
17. Sabine Industries	21.6	1.5
18. American Asbestos Textile	15.0	1.0
19. ASARCO Inc. (Cement Asbestos Products)	13.0	1.0
20. Gatke Corp.	11.6	1.0

¹³/ Id. at 24.



III. HEALTH HAZARDS

The health hazards resulting from exposure to asbestos were first identified in occupational settings with high levels of fibers producing asbestosis and/or lung cancer. More recent medical investigations have also uncovered hazards in non-occupational settings, with low levels of fibers producing mesothelioma. This section discusses asbestosis, lung cancer and mesothelioma as they have been reported by various medical investigators.

A. Asbestosis

Occupational health hazards associated with the inhalation of asbestos fibers were documented in the early 1900s. The health risks include non-malignant pulmonary fibrosis (or asbestosis), and several types of malignancies -- bronchogenic carcinoma (lung cancer), pleural and peritoneal mesothelioma, and possibly other tumors. 15/

In Europe, especially England, medical and governmental authorities began recognizing and recording serious pulmonary illnesses and deaths occurring in asbestos factory and mill workers as early as the turn of the century. In 1906, H. Montagu-Murray, a physician at London's Charing Cross Hospital,

15/ W. B. Reitze, W. J. Nicholson, D. A. Holsday, I. J. Selikoff, "Application of Sprayed Inorganic Fiber Containing Asbestos: Occupational Health Hazards," 33 American Industrial Hygiene Association Journal, 178 (1972).

reported to a Departmental Committee on Industrial Diseases in Great Britain the autopsy findings of a man who had worked for ten years in the carding room of an asbestos factory. Montagu-Murray determined that the man had died of pulmonary fibrosis. ^{16/} Montagu-Murray considered that the workroom dust had caused the lung scarring, or fibrosis, but predicted, wrongly, that since the disease possibility was recognized, similar cases were unlikely to occur in the future. ^{17/}

In North America concerns over asbestos related health hazards surfaced about a decade later than in Europe. A Canadian health inspector, examining conditions in an asbestos factory in 1912, noted the remarks of a local physician, who commented that large amounts of asbestos dust floating in the factory's cobbling room had a "weakening effect" on the workers' lungs. ^{18/}

The year 1924 is considered to be the turning point in the medical recognition of asbestos related health hazards. In that year Cooke published an article, "Fibrosis of the Lungs Due to the Inhalation of Asbestos Dust" in the British Medical

^{16/} I. J. Selikoff and D. H. K. Lee, Asbestos and Disease, 20 (1978).

^{17/} I. J. Selikoff, "Asbestos-Associated Disease," 568 in Maxcy-Rosenau Public Health and Preventive Medicine, (11th ed. John M. Last 1980).

^{18/} I. J. Selikoff and D. H. K. Lee, supra note 16, at 21.

Journal, which reported the death of an asbestos worker from pulmonary fibrosis. The autopsy revealed "curious bodies" in the lungs of a woman who died after working thirteen years in a British asbestos textile factory. 19/ It was not until 1929, that the "curious bodies" became known as "asbestos bodies." 20/ In 1927, Cooke made a more detailed study of pulmonary fibrosis in asbestos workers and coined the term "asbestosis." 21/

Merewether's description of asbestosis in 1930 led to the British Parliament's promulgation of environmental regulations and medical control in the United Kingdom which became effective in 1932. 22/ A year earlier, Parliament classified asbestosis as a compensatory disease requiring mandatory post-mortems, thus, aiding medical research. 23/

In 1938, authorities in the United States proposed guidelines for acceptable dust concentrations in the asbestos

19/ M. Villecco, "Technology: Spray Fireproofing Faces Control or Ban as Research Links Asbestos to Cancer," 133 Architectural Forum 52 (1970).

20/ I. J. Selikoff and D. H. K. Lee, supra note 16, at 22.

21/ National Academy of Sciences, Committee on Biological Effects of Atmospheric Pollutants, Asbestos: The Need for and Feasibility of Air Pollution Controls, 4 (1971).

22/ 1979 Hearings, supra note 2, at 419.

23/ M. Villecco, supra note 19, at 51.

textile industry. These guidelines, proposed by Dressen et al., were published in a U.S. Public Health Bulletin. 24/

Thus, the first clearly demonstrated and officially recognized adverse effect of exposure to asbestos was the disabling disease of asbestotic pneumoconiosis, or asbestosis. 25/ Asbestosis is a diffuse, pulmonary fibrosis, which is progressive and non-malignant. It is initiated by the inhalation of microscopic airborne asbestos fibers. When inhaled some of the fibers become entrapped in the lungs and remain there causing biological actions. 26/

Although in its early stages asbestosis may not be detected by x-rays, they eventually will show "diffuse interstitial fibrosis (increased fibrous tissue growth) in the lungs." 27/ Apart from radiographic changes, clinical manifestations of the disease are: dyspnea, or shortness of breath; diffuse basal rales, or basal lung noises; coughing; restrictive pulmonary lung function; clubbing of the fingers

24/ National Academy of Sciences, Committee on Biological Effects, supra note 21, at 4.

25/ Ibid.

26/ George A. Peters, and Barbara J. Peters, Sourcebook on Asbestos Diseases: Medical, Legal and Engineering Aspects, B2 (1980).

27/ 1979 Hearings, supra note 2, at 419.

(thickening and curvature of the fingernails); and cyanosis, (or deficient oxygenation of the blood causing a bluish coloration of the skin and mucous membranes). 28/ In its severe forms, death may result because either the lungs with their decreased vital capacity are unable to provide enough oxygen to the body, or, the heart is unable to pump blood through the scarred lungs, causing cardiac arrest. 29/

B. Lung Cancer

In the past thirty to forty years, malignant carcinomas (cancers) of the lungs, larynx, gastrointestinal tract, and pleural or peritoneal mesothelioma have been linked to asbestos exposure. In May, 1935, Lynch and Smith reported in the United States that an autopsy performed on a fifty-seven year-old asbestos mill weaver with twenty-one years of exposure, showed carcinoma of the right lung as well as asbestosis. 30/

In October, 1935, Gloyne published an account of two cases of lung cancer and asbestosis. Both victims were women; one worked as an asbestos spinner for eight years before her death,

28/ G. A. Peters and B. J. Peters, supra note 26, at B4-B5; National Academy of Sciences, Committee on Biological Effects, supra note 21, at 4.

29/ 1979 Hearings, supra note 2, at 419.

30/ I. J. Selikoff and D. H. K. Lee, supra note 16, at 26.

and the other woman was exposed to asbestos for only nineteen months, fifteen years before her death. 31/

Throughout the 1940s evidence accumulated linking asbestos exposure and lung cancer. In 1943, Wedler found a 16% prevalence of pulmonary carcinoma in ninety-two autopsy reports on asbestotic patients. 32/ Merewether's 1947 Report of the Chief Inspector of United Kingdom factories related thirty-one cases of lung cancer in 235 patients known to have died with asbestosis during the period 1923-1946. This was a cancer rate of 13.2% as opposed to an incidence of only 1.32% (91 of 6884) in persons certified as having died of silicosis during the same period. 33/

Hueper, writing in 1951 said that:

Although Warren rather recently maintained that the connection between asbestosis and lung cancer is of a coincidental nature, the actual existence of a causal relationship appears very likely. 34/

Comments of a similar nature to Hueper's were made by Gloyne who had examined 1,247 lung specimens for pneumoconiosis sent to him during the period 1929-1949. Gloyne stated:

31/ Ibid.

32/ Id. at 27.

33/ Ibid.

34/ Ibid.

Whether [workers with a dust hazard] have a risk over and above [that of the general population] as a result of their occupation cannot yet be clearly shown, but the mortality of the asbestos workers is disturbing. In the present series, 14% of the patients with asbestosis also had primary cancer of the lung. This is all the more striking because so many of them (41.2%) were females. 35/

In 1955, Doll reported on coroners' autopsies performed since 1935 on persons employed at a large asbestos works. In studying these reports, Doll concluded that lung cancer was a specific industrial hazard faced by certain asbestos workers; and, he found that "the average risk among men employed 20 or more years had been 10 times that experienced by the general population." 36/

While lung cancer occurs in people who have had no known exposure to asbestos, the risk of disease increases some five to ten times with moderate exposure to airborne asbestos fibers. 37/ Though results of medical and scientific studies seem to indicate that "no single type of fibre seems to be especially important in relation to the lung carcinoma risk" 38/,

35/ Ibid.

36/ Ibid.

37/ G. A. Peters and B. J. Peters, supra note 26, at 28.

38/ J. C. Gilson, "Asbestos Cancer: Past and Future Hazards," 66 Proceedings of the Royal Society of Medicine, 398 (1973).

"(r)ecent surveys [McDonald et al., 1971, Newhouse 1969, Newhouse et al., 1972] have produced good evidence that the lung carcinoma risk is dose related." 39/

One of the major problems in attempting to determine the level of asbestos exposure which is hazardous and cancer-producing is the long latency period of fifteen to thirty-five years or so between the first exposure to asbestos and the clinical evidence of cancer.

Cancer latency periods vary because of individual reactions to carcinogens and differences in length and intensity of exposure. For any given exposure dose, some individuals will respond early, some late and some not at all. For each exposure level a different latent period probably exists. These latent periods are probably related to the intensity of the exposure. 40/

In the early 1960's, Selikoff, Hammond, and Churg studied the case histories of 632 asbestos workers. They calculated that by 1962 there should have been 203 deaths among this group; however, there were 255, an excess of 20%. A 1967 study of 370 union members revealed similar data.

The number of deaths was not the only alarming finding, but also the causes. None in the general population would have died of Asbestosis, but many of the asbestos workers did. There was also an extremely high incidence of cancer among the workers, especially lung cancer. (Not one died

39/ Ibid.

40/ 1979 Hearings, supra note 2, at 427.

of lung cancer who was not also a smoker, but that is little consolation.) 41/

Selikoff, Hammond and Seidman gathered mortality data on 17,800 asbestos insulation workers for the period of January, 1967 to December, 1976. During this period, 2,270 of these individuals died. It was found that 44% died from cancers, including 20% from lung cancer, and 7% from mesothelioma. Additionally, 7% of the workers died from asbestosis. 42/ It should be noted that deaths from mesothelioma and asbestosis are rare in the general population. The lung cancer death rate in this study exceeded the general population (white males) lung cancer death rate by a factor of 4.58. 43/ In the Nicholson report in which the Selikoff, Hammond and Seidman study is discussed, the authors comment on these statistics:

Comparing the frequencies of deaths from cancer and asbestosis in these workers with those among the general population, nearly 40% of the deaths can be attributed to their occupational exposure to asbestos. 44/

41/ M. Villecco, *supra* note 19, at 51. According to Villecco's article, Dr. Selikoff estimated that 75% of the adult male population smoked at that time.

42/ W. J. Nicholson, A. W. Rohl, R. W. Sawyer, E. J. Swoszowski, J. D. Todaro, Control of Sprayed Asbestos Surfaces in School Buildings: A Feasibility Study, Report to the National Institute of Environmental Health Sciences 3 (1978).

43/ *Id.* at 48.

44/ *Id.* at 3.

Nicholson also observed:

.... It has been calculated that the combined risk of dying of lung cancer of an asbestos worker who smokes is 92 times that of an individual who neither smokes nor works with asbestos. 45/

In 1973 Gilson discussed some of the factors influencing asbestos related cancers:

The more important and specific factors affecting the incidence of asbestos cancers are becoming clear. The total dust dose as well as the pattern appears important ... The four important common types of fibre - chrysotile, amosite, crocidolite, and anthophyllite - differ in their biological effects. The degree of dispersion, diameter, length, and shape of fibre markedly influence where the dust is deposited in the lungs and its subsequent elimination, and probably its biological effect. The lapse of time between first exposure and the detection of associated cancers is long - rarely less than twenty years for mesotheliomas.... Cofactors, especially cigarette smoking, are certainly important; others, such as heavy metals also in the dust, may be relevant. 46/

C. Mesothelioma

Mesothelioma is a diffuse cancer which spreads over either the surface of the lungs -- pleural mesothelioma, or, over the surface of the stomach lining -- peritoneal mesothelioma. Both pleural and peritoneal mesothelioma

45/ W. J. Nicholson, "Case Study: Asbestos - The TLV Approach," 271 Annals of New York Academy of Sciences, 164 (1976).

46/ J. C. Gilson, supra note 38, at 397.

are usually marked by severe pain, which in many cases is unresponsive to analgesics. Death usually occurs within one to two years of diagnosis and often strikes within a matter of months. As of this date there is no effective treatment for mesothelioma, nor is there an effective screening method. 47/

Mesothelioma "is a relatively rare form of cancer whose relationship to asbestos has been generally known since the late 1930's." 48/

In Asbestos and Disease, Selikoff attributes the first published account of mesothelioma to E. Wagner, who in 1870 described a primary neoplasm or tumor of the pleura. Selikoff goes on to trace more recent notice of mesothelioma. In 1947, Mallory et al., in studying records from Massachusetts General Hospital, reported a case of mesothelioma of the pleura and pericardium. The victim worked with asbestos -- cutting insulation board.

In 1963, Wagner reported to the International Congress on Occupational Health in Johannesburg that he had seen 120

47/ G. A. Peters and B. J. Peters, supra note 26, at B6-B7.

48/ Hardy v. Johns-Manville Sales Corp., 509 F. Supp. 1353, 1355 (E.D. Tex. 1981).

cases of mesothelioma in South Africa since 1956. Interestingly enough, Wagner stated that more than half of these cases were people who had never worked in the asbestos industry, but, who had lived in the vicinity of the Northwest Cape crocidolite asbestos mines and mills. Thus, the importance of environmental exposure was established. ^{49/}

The link between environmental exposure to asbestos and the occurrence of mesothelioma was further documented by Newhouse and Thompson in an article published in the British Journal of Industrial Medicine. Newhouse and Thompson studied seventy-six London Hospital patients diagnosed as having mesothelioma from 1917 to 1964. Of these seventy-six, "31 (40.8%) had occupational exposure to asbestos, 9 (11.8%) had a relative who worked with asbestos, 11 (14.5%) had neither of those backgrounds, but had lived within a half mile of an asbestos factory, and 25 (32.9%) had no known contacts" with asbestos. ^{50/}

Evidence of indirect occupational exposure to asbestos and the incidence of mesothelioma accumulated rapidly in the

^{49/} I. J. Selikoff and D. H. K. Lee, supra note 16, at 28-30.

^{50/} National Academy of Sciences, Committee on Biological Effects, supra note 21, at 17.

1970s. Harries, in 1972, reported on thirty-seven cases of mesothelioma diagnosed in shipyard workers "whose only exposure to asbestos was from proximity to asbestos workers." 51/

Nicholson reported that another study showed that gold miners exposed to relatively low levels of asbestos (about one-tenth of the Occupational Safety and Health Administration Standard in force at the time) "had three times the expected risk of malignant respiratory diseases." 52/ It was found in a study of the mortality records of a large U.S. asbestos products manufacturing facility, that workers in low dust areas, who had "minimum risk of death from asbestosis, had the same high risk of death from cancers as workers in dustier areas." 53/

These reports of increasing incidence of mesothelioma are particularly disturbing for several reasons. First, unlike asbestosis, mesothelioma does not appear to be almost exclusively an occupational hazard. Many documented cases of mesothelioma have occurred in environmental circumstances, such as in persons living in the same household as an asbestos worker, or residing within the neighborhood of an asbestos mine, factory, or

51/ 1979 Hearings, supra note 2, at 429.

52/ Ibid.

53/ Ibid.

mill. 54/ Another disturbing factor associated with mesothelioma is the very low level of asbestos exposure involved in a number of cases. In Sourcebook on Asbestos Disease: Medical, Legal, and Engineering Aspects, the authors write that the prevention of mesothelioma "is best accomplished by avoiding exposure to asbestos. No threshold has been established to define what might be a reasonably safe exposure level." 55/ Gilson addresses the problem of dose level in "Asbestos Cancer: Past and Future Hazards" in writing:

Information about the dose of dust and risk of mesothelioma at present is qualitative. There are many reports of cases following short exposures -- a few weeks. Cases have followed exposure to dusty clothes in the home. In addition, asbestosis is often absent, again indicating a relatively small dose of dust [Wagner et al., 1971] but there is evidence of a relation of risk to dust and length of exposure [Newhouse et al., 1972]. 56/

Finally, there is the factor of a long latency period, which almost always comes into play in the incidence of mesothelioma. According to Grundy and Miller, mesothelioma in adults generally occurs in the sixth or seventh decade of life, often following

54/ W. J. Nicholson, E. J. Swoszowski, A. N. Rohl, J. D. Todaro, A. Adams, "Asbestos Contamination in United States Schools from Use of Asbestos Surfacing Materials," 330 Annals of the New York Academy 595 (1979).

55/ G. A. Peters and B. J. Peters, supra note 26, at 87.

56/ J. C. Gilson, supra note 38, at 400.

a brief high dose or a prolonged low dose exposure to asbestos, with usually a latency period of 20-40 years between initial exposure and tumor manifestation. 57/

While there are a number of reports linking the incidence of asbestos related disease to workers heavily exposed, 58/ the quantitative effects of low-level environmental exposure to asbestos fibers, is not so heavily documented. However, it should be noted that foreign research on occasion has been more advanced than American research. 59/

57/ G. W. Grundy and R. W. Miller, "Malignant Mesothelioma in Childhood: Report of 13 Cases," 30(5) Cancer 1217 (1972).

58/ One report which the Peters discuss in Sourcebook is that of P. L. Polakoff, "Asbestos Related Diseases Hazard Prevention" published in 1979 in Hazard Prevention. Polakoff estimates "that some 20-25% of the heavily exposed workers will die of lung cancer, 7 to 10% of mesothelioma, and 8 to 9% of gastrointestinal cancers." Additionally, "another 10% will die of complications associated with asbestos." According to the report, "(t)hat represents ... a staggering total of 1.6 million workers expected to die of an asbestos-related disease, which represents about 67,000 deaths per year in the United States (about 17% of all cancers detected)." G. A. Peters and B. J. Peters, supra note 26, at B19.

59/ See p. 36, infra.

IV. INDUSTRY AWARENESS OF ASBESTOS HEALTH HAZARDS

This section discusses the issue of asbestos industry awareness of occupational health hazards. What asbestos manufacturers knew or should have known is important for purposes of establishing "failure to warn," "failure to test," and "foreseeability of harm." These elements are predicates for the restitution and products liability theories of recovery, discussed in Section II of the Legal Issues Section of this report.

For example, plaintiffs may attempt to impute knowledge based on such things as a 1918 bulletin on "Mortality from Respiratory Diseases in Dusty Trades," by the U.S. Bureau of Labor Statistics reporting "that it was the practice of American and Canadian insurance companies not to insure asbestos workers due to their assumed health risks." ^{60/}

The focus of discussion here however, is a series of letters allegedly between various members of the asbestos industry recently discovered during products liability litigation. ^{61/} These letters have been used by plaintiffs in products liability litigation against the industry to contend that members of the asbestos industry sought to obscure data on the relationship between asbestos exposure and disease.

^{60/} Asbestos Litigation Reporter, February 7, 1979, reprinted in 1979 Hearings, *supra* note 2, at 485, 492.

^{61/} The documents referred to in this section were produced in litigation against the industry in Barlieb v. Turner & Newall, Ltd., Civil Action No. 78-1027 (E.D. Pa., Consolidated Nov. 26, 1980).

It is stressed at the outset that industry defendants may dispute the authenticity of the documents cited in this section, or may otherwise contest the of conclusions drawn from the documents. We do not attempt to raise or resolve such issues, but do set forth examples of the documents, since the government obviously may attempt to use them to help prove "failure to warn," "failure to test," and "foreseeability of harm," if litigation should be brought against asbestos manufacturers to recover the costs of abating asbestos hazards in the schools.

While the narrative of the following documents is set forth in an affirmative style to aid comprehension - inserting the word "allegedly" in every sentence would become painfully repetitious -- we expressly caution that there may be perfectly valid objections as to the authenticity or admissibility of any or all of the letters, reports, studies, minutes, or other documents discussed or quoted, in the remainder of this section.

In a December 10, 1934 letter from Vandiver Brown, General Counsel for Johns-Manville, to Dr. A.S. Lanza, Medical Director of the Metropolitan Life Insurance Co., Brown pointed out that Lanza omitted from a galley proof of an article he was preparing, entitled, "Effects of the Inhalation of Asbestos Dust on the Lungs of Asbestos Workers," observations appearing in the original draft which minimized the seriousness of disease due to asbestos exposure. Brown went on to say, "observations included in your original report presented an aspect of your survey that was favorable to the industry and we should like to see them retained."

On September 25, 1935, A.S. Rossiter, editor of Asbestos, wrote to Sumner Simpson, President of Raybestos-Manhattan, requesting permission to report on asbestosis and the work being done to reduce or eliminate the disease. Rossiter stated that "[a]lways you have requested that for certain obvious reasons we publish nothing, and, naturally your wishes have been respected." On October 1, 1935, Sumner Simpson wrote to Vandiver Brown about the letter from Rossiter and commented, "I think the less said about asbestos, the better off we are, but at the same time, we cannot lose track of the fact that there have been a number of articles on asbestos dust control and asbestosis in the British trade magazines." Simpson further commented on Rossiter's cooperation

saying "[t]he magazine 'Asbestos' is in the business to publish articles affecting the trade and they have been very decent about not reprinting the English articles." Vandiver Brown replied on October 3, 1935, "I quite agree with you that our interests are best served by having asbestosis receive the minimum of publicity."

Regarding foreign research, Brown suggested to Simpson that they:

warn the editors to use American data on the subject rather than English. Dr. Lanza has frequently remarked, to me personally and in some of his papers, that the clinical picture presented in North American localities where there is an asbestos dust hazard is considerably milder than that reported in England and South Africa.

The industry allegedly began supporting its own research at Saranac Laboratory, Saranac, New York.

Simpson wrote to F.H. Schluter, President of Thermoid Rubber Co., on November 10, 1936, describing a proposal for asbestos manufacturers to take over Dr. Gardner's study on dust at Saranac Laboratory, each one paying an equal amount. After completion of the research, the subscribers could then decide whether to publish the results. Simpson added, "My own idea is that it would be a good thing to

distribute the information among the medical fraternity, provided it is of the right type and would not injure our companies." Simpson stated that the industry needs information to support them in Court and that "[w]e do know that Asbestos Fibres can, and do, get into the lungs, and may set up a Fibrosis condition, which, for want of a better name, some doctors have called Asbestosis."

On November 20, 1936, Vandiver Brown, sent a letter to Dr. Gardner regarding the terms of agreement for research by Saranac Laboratory for the asbestos industry. The agreement included the understanding that:

the results obtained will be considered the property of those who are advancing the required funds, who will determine whether, to what extent and in what manner they shall be made public. In the event it is deemed desirable that the results be made public, the manuscript of your study will be submitted to us for approval prior to publication.

Having embarked upon the three year study of asbestos dust at Saranac Laboratory, Simpson wrote to Rossiter (Asbestos magazine) on March 22, 1939, about means of dust abatement, and of his intention to hold back such information until the report is completed. Simpson added, "I can tell you confidentially, but am not willing to make it public, that the air can be kept below five million microns, with proper controls, but I am not willing to start a controversy with my competitors." On March 23, 1939, Rossiter responded

in a letter to Simpson, expressing his understanding that any preliminary research from the Saranac research should be kept confidential:

The information you give as to your Saranac investigation is most interesting. Of course we understand that all this information on asbestosis is to be kept confidential and that nothing should be published about asbestosis in "ASBESTOS" at present.

It has been asserted that "[f]rom the war years on, an avalanche of data was forthcoming from the scientific community about the relationship of asbestos to asbestosis and cancer." 62/ In 1949 a health survey of 708 Johns-Manville employees was completed. The company's report found that 75% of the workers (534 of 708) given x-rays showed as a minimum some degree of fibrosis of the lungs. Nevertheless, it is alleged that the conclusions and recommendations were neither made public nor communicated to the workers. The report stated:

X-rays of these men show that the increase in fibrosis of the lung is directly proportional to the length of exposure to asbestos dust.

There are 7 cases of asbestosis and 52 cases in a "Pre-Asbestosis Group." These 59 are probable compensation claims.

Another 475 had early signs of a non-specific fibrosis, "all of whom will show progressive fibrosis if allowed to continue working in dusty areas." The report further stated:

62/ Asbestos Litigation Reporter, supra note 60, at 488.

It must be remembered that although these men have the x-ray evidence of asbestosis, they are working today and definately [sic] are not disabled from asbestos. They have not been told of this diagnosis for it is felt that as long as the man feels well, is happy at home and at work, and his physical condition remains good, nothing should be said.... [A]s long as the man is not disabled ... he can live and work in peace and the Company can benefit by his many years of experience. Should the man be told his condition today there is a very definite possibility that he would become mentally and physically ill, simply through the knowledge that he has asbestosis.

Although the men were not disabled at the time from asbestosis, the report conceded that the fibrosis was irreversible and employees with this condition had a more difficult time when stricken by secondary infections such as pneumonia and influenza. An August 1949 memo attached to the survey commented on the results:

The conclusions seem unavoidable -- that the dust is causing significant lung changes in many cases, it largely being a matter of time, and the further conclusion that many cases are likely to result in claims.

If in fact such a study was performed and the results deliberately withheld, the results may have been extremely unfortunate. It may be argued that workers with early fibrosis could have changed occupations, thereby escaping later death or disablement had they known of the danger. New and future workers could have demanded safeguards or exercised an informed choice to engage in

other occupations. The shareholders of the company may have been forewarned. 63/ Medical and public knowledge of the hazards of asbestos fibers may have been significantly advanced if the results of the study had been disseminated.

The documents which may be used in attempts to support claims against manufacturers, were allegedly not confined to one or two members of the industry. Additional documents may be used to contend that the Asbestos Textile Institute (ATI), an industry association, discouraged research and publication that would confirm the carcinogenicity of asbestos fibers.

Minutes of the June 9, 1955 General Meeting of the ATI discussed two proposed studies -- a cardio-pulmonary study, and an autopsy study. The cardio-pulmonary study "would be desirable," but was rejected because of the "inability of member companies to obtain candidates for participation in the project." The autopsy study "was considered ill-advised at this time due to its implication that a relationship existed between asbestosis and carcinogenic development, a condition which, to date, has not been established although it has been given rather wide-spread publicity in the press."

63/ Johns-Manville had its financial statement qualified by its auditors because of the growing, but unknown ultimate cost of asbestos litigation to the company. See Asbestos Litigation Reporter at 3,058-59 (Mar. 13, 1981).

On March 7, 1956, the ATI Air Hygiene Committee and the Board of Governors met separately. The minutes of these meetings discussed, "A Quest Into the Environmental Causes of Cancer of the Lungs," Public Health Monograph No. 36 (1955), by Dr. W.C. Hueper, Chief of Environmental Cancer, National Cancer Institute, National Institute of Health, Bethesda, Maryland. The Air Hygiene Committee reported that the publication "ties together Asbestosis and Cancer throughout - creating a new word for the Medical Dictionary such as Asbestosis-Cancer," and that according to Dr. Hueper, "Asbestosis-Cancer can be found after exposure of 6 months to 42 years in ages of people from 25 to 65 years.... According to him all workers in this industry are susceptible." Hueper also had suggested the presence of environmental hazards due to asbestos by "infer[ring] that Asbestosis-Cancer may be determined in an autopsy performed on persons living in the area of a plant."

Dr. Kenneth Smith, Medical Director of Johns-Manville Corp., characterized Hueper's Public Health Monograph No. 36, as well as other Hueper publications, such as "Silicosis, Asbestosis, and Cancer of the Lung," as "damaging information." Consequently, Smith recommended to the Air Hygiene Committee that the ATI "begin a study of the relationship of Lung Cancer to Asbestosis in our industry." Dr. Smith said that

"he has no evidence that there is not a relationship between Asbestosis and Cancer," and that the study be performed by the Industrial Hygiene Foundation of America, Inc., Mellon Institute, Pittsburgh, Pennsylvania.

The Air Hygiene Committee reported to the ATI Board of Governors on March 7, 1956. The minutes stated that:

[m]uch of the information set forth in [the Hueper] report is unsubstantiated and is in variance with established understanding and knowledge of informed men in the medical profession. However this article is apparently assumed to be the only authentic treatise today....

Dr. Smith then recommended before the Board of Governors that the ATI "initiate a program of investigation and publicity to counteract the unfavorable publicity presently directed to the asbestos industries as a result of the work of Dr. Hueper."

On March 8, 1956, minutes of the General Meeting of the ATI also discussed the Hueper report. It was announced at this meeting that the Board of Governors "appropriated sufficient funds to initiate a preliminary survey to investigate the possibility of more concerted action designed to refute the work of Dr. Hueper."

One year later to the day, March 7, 1957, the Air Hygiene and Manufacturing Committee of ATI met. They discussed and rejected two memoranda on proposed studies prepared by the Industrial Hygiene Foundation (IHF) for the ATI. Both studies were rejected. The first, "Memorandum on Proposed Epidemiological Study of

Lung Cancer in Asbestos Workers," was rejected because "[t]here is a feeling among certain members that such an investigation would stir up a hornet's nest and put the whole industry under suspicion." The second, "Memorandum Regarding Environmental Dust Survey," was turned down because ATI "did not believe it to be of great enough value to justify the cost." In an April 26, 1957 letter, D.R. Holmes, Chairman of the Air Hygiene Committee informed Dr. Daniel Braun, Medical Director, Industrial Hygiene Foundation, that the ATI had rejected both IHF proposals.

The Johns-Manville Health Review Committee minutes of 1957 and 1958 between a team of doctors and company officials, discussed the health of various employees. The focus was on potential liability -- whether funds should be set aside for impending claims, whether employees should be told about their medical conditions, and whether the reason for a transfer should be discussed with a worker. Dr. Smith commented during a March 5, 1958 meeting on the medical condition of various employees, "We take the x-rays for our own protection, not for social obligation." And regarding the use of a respirator which would protect a worker, C. Sheckler, a Johns-Manville official commented, "I would rather see us move him out than wear a respiratory [sic]. All the key men, salaried employees, are in this area. If I move Trilone, I might as well see him off."

In a December 30, 1957 letter to Ivan Sabourin, Quebec Asbestos Mining Association (Q.A.M.A.), Dr. Smith commented approvingly on the condensation of a survey by the Industrial Hygiene Foundation, Mellon Institute, which deleted all references to the association of asbestosis and lung cancer, and the reference to smoking and lung cancer. Smith then reminded Sabourin that "this report will be subjected to criticism when published because all other authors today correlate lung cancer and cases of asbestosis."

It has been asserted that it was not until 1964, when the report by Dr. I. J. Selikoff was published on his study of 1,500 workers showing a high incidence of cancer, that some of the asbestos companies began providing warnings to accompany some of their asbestos products. 64/ The seminal case in asbestos products liability litigation however, found these post-1964 warnings to be inadequate:

It should be noted that none of these so-called "cautions" intimated the gravity of the risk: the danger of a fatal illness caused by asbestosis and mesothelioma or other cancers. The mild suggestion that inhalation of asbestos in excessive quantities over a long period of time "may be harmful" conveys no idea of the extent of the danger. The admonition that a worker should "avoid breathing the dust" is black humor. There was no way for insulation workers to avoid breathing asbestos dust. Borel v. Fibreboard Paper Products Corp., 493 F.2d 1076 at 1104 (5th Cir. 1973), cert. denied, 419 U.S. 869 (1974).

64/ Asbestos Litigation Reporter, February 7, 1979, reprinted in 1979 Hearings, supra note 2, at 488.

In 1969, at Johns-Manville:

A policy of refusing to sell asbestos fiber for non-essential uses that might unduly expose the general public to the inhalation of asbestos dust, has been established. For example, during the year, Johns-Manville ceased selling fiber to manufacturers of modeling compounds used in grade schools.... 65/

There are approximately 10,000 asbestos liability cases now pending, most of which have been brought by workers who used asbestos products on the job, seeking recovery from asbestos manufacturers for death or disablement. The most widely cited asbestos products liability decision concluded that "[t]he unpalatable facts are that in the twenties and thirties the hazards of working with asbestos were recognized....During his working years, he [Borel] received no warnings of any kind from three of the six defendants. The other three defendants issued no warnings until 1964-1966, by which time adequate warnings would have come too late for Clarence Borel." Borel v. Fibreboard Paper Products Corp., 493 F. 2d 1076, 1106 (5th Cir. 1973), cert. denied, 419 U.S. 869 (1974).

In conclusion, the state of medical (discussed in section III, infra) and industry knowledge (discussed here) of the hazards of asbestos fibers may be contended to be sufficient to impute a "duty to warn" and a "duty to test" to the manufacturers of asbestos products, and to provide a basis for asbestos school hazard claims against them based on restitution, strict liability, and negligence. 66/

65/ Report to the Board of Directors on Asbestos and Health, Johns-Manville, June 15, 1969.

66/ See Summary Section of Legal Issues portion of this Report, infra.

Finally, it is again stressed that there may be perfectly valid objections as to the authenticity or admissibility of any or all of the purported industry documents that have been discussed or quoted here. At the same time, it should be recognized that foreseeability, failure to warn, and failure to test were established in the Borel case prior to discovery of these documents, based on imputed knowledge of the types of medical studies discussed in section II, infra, including the 1938 Public Health Service Report, and the 1945 Fleischer-Drinker Report. See discussion of Borel decision at p. 139, supra.

V. ASBESTOS IN THE SCHOOLS

Asbestos products used in school construction include cement products, plaster, fireproof textiles, vinyl floor tiles, thermal and acoustical insulation, and sprayed materials. The hazard created by the use of asbestos in schools is affected by the properties and the amount of asbestos used. This section discusses the potential school hazards that exist in light of these factors.

A. The Characteristics of Friable Asbestos

Hard asbestos-containing materials, such as vinyl floor tiles, do not generally create exposure problems. Minor disturbance to soft or loosely bound (i.e., friable) asbestos-containing materials can cause the release of asbestos fibers. ^{67/} The presence of friable asbestos in school buildings has been determined by Congress to be hazardous, ^{68/} and it found that "substantial amounts of asbestos, particularly in sprayed form, have been used in school buildings, especially during the period 1946 through 1972." ^{69/}

^{67/} U.S. Environmental Protection Agency, Asbestos-Containing Materials in School Buildings: A Guidance Document, Part I, 2-3 (1979).

^{68/} 20 U.S.C. 3601(a)(6).

^{69/} Id. at (a)(4).

Friable material can be fluffy or spongy in appearance. It can have an irregular soft surface, or a textured, dense, fairly firm surface. Friable asbestos-containing material can be crumbled and reduced to powder in the hand. Friable asbestos-containing materials have been used for fireproofing, and thermal and acoustical insulation, and are commonly found on steel support beams and columns, on the ceilings of classrooms, corridors, auditoriums, cafeterias, machine shop rooms, and storage rooms. They may also be found on overhead surfaces of indoor pools and gymnasiums. 70/

The asbestos content of sprayed materials usually ranges between 5% and 50%. Sprayed asbestos material is a mixture of asbestos fibers, other fibers (cellulose, non-asbestos mineral fibers), and a binder. It is applied to ceilings, beams and other surfaces by spraying. The resulting product's friability can vary depending on the components mixed with the asbestos and the amount of cement added. 71/

Fibers are released from friable material as a result of a breakdown of the material due to vibrations, deterioration, or direct contact and damage. As friable asbestos material ages, it can also lose its cohesive strength and release fibers.

70/ U.S. Environmental Protection Agency, supra note 67, at 3,7.

71/ Id. at 3.

Fallout of fibers from deteriorating material is usually at a low level, but continuous. Fiber release by contact and damage depends on the accessibility of the material and degree of disturbance. In the case of damage, contamination can be very high for brief periods, and then gradually decrease as the fibers settle. However, fiber release can occur after only minor contact with friable material. Furthermore, asbestos fibers cannot be easily destroyed or degraded, and their extremely small size and shape permit them to remain airborne for long periods of time. 72/

72/ Id. at 2-4. In schools, much of the sprayed asbestos material is in view and can be damaged causing fiber release as a result of numerous common daily activities in the school such as:

1. A ball hitting friable material on a gymnasium ceiling or wall.
2. Hanging pictures or displays on friable materials.
3. Any maintenance activity involving contact with friable material.
4. Water damage from roof or plumbing leaks will cause deterioration of the material and in some cases delamination (i.e., breaking away of layers of material from the underlying surface).
5. Building vibrations from sources within or outside the building, including activities on the floor above, or from machinery which can cause movement of friable materials and the release of fibers.
6. Vandalism caused by scraping or gouging causing the release of asbestos fibers.

U.S. Environmental Protection Agency, supra note 67, at 4.

When asbestos fibers are released from asbestos-containing materials they contaminate the building environment, thereby causing building occupants to inhale the fibers. Although most fibers will not remain in the lungs, some do, and those that are retained will remain indefinitely. 73/

Fibers that have been released can remain suspended in the air for many hours. After the fibers settle, however, they can be resuspended in the air by disturbances created by student activities or custodial work, such as dusting or sweeping, thereby causing repeated exposure. 74/

For example, at even half the present OSHA workplace standard -- which would be 1 fiber/cc, a resting young man will breathe in approximately 2,880,000 fibers in one eight-hour work day. In other words, even at low levels of exposure, an exposed person may be breathing in hundreds of thousands, or even millions of fibers. 75/

B. Use of Sprayed Asbestos

The Environmental Protection Agency (EPA) conducted a survey of the presence of friable asbestos-containing materials

73/ Id. at 2.

74/ Id. at 4.

75/ G.A. Peters and B.J. Peters, supra note 26, at D32.

in the nation's public schools. As of April 1980, 768 school districts, containing 7,378 public schools (about 8% of the nation's total) responded to the survey. Of the 6,422 schools in these districts which were built or renovated between 1945 and 1973, 5,797 were inspected. Of the inspected schools, 33% or 1,916 were found to have asbestos-containing materials. 76/ The EPA estimates that during the school year, three million students throughout the country are potentially exposed to airborne asbestos fibers from friable asbestos-containing materials. 77/

During the latter part of the 1960s, concern arose over the widespread release of asbestos fibers into the ambient air around construction sites. Public agencies at the municipal, state, and federal level began to respond to the awareness that the use of asbestos containing spray-on coatings represented a possible environmental hazard, and a hazard to the workmen applying the materials. 78/ As a result, several cities

76/ U.S. Environmental Protection Agency, Support Document for Proposed Rule on Friable Asbestos-Containing Materials in School Buildings, 6-7 (1980).

77/ Id. at 12.

78/ 1979 Hearings, supra note 2, (statement of James P. Leineweber, Ph.D.), at 178-79.

and states including Boston, New York, Philadelphia and Illinois banned the use of sprayed asbestos in 1970 and 1971. 79/

In 1973, the EPA issued regulations which banned the spraying of friable materials containing more than one percent asbestos for use as insulation or fireproofing materials.

See 38 Fed. Reg. 8,826 (1973). The EPA regulations were promulgated under the authority of the Clean Air Act to prevent the introduction of asbestos fibers into the outdoor ambient air. However, indoor contamination also became a concern. It later became apparent that the regulations were not sufficiently broad because they arguably only banned the use of asbestos as an insulation and fireproofing material, and it could be argued that spraying for decorative purposes was permissible. Consequently, in 1978 the EPA amended the regulations to ban the spraying of asbestos material for any purpose. See 43 Fed. Reg. 26,372 (1978).

The asbestos spraying industry responded by developing non-asbestos-containing materials. Herbert Levine, President of Spraycraft Corporation stated that the members of the Sprayed Mineral Fibers Association began to develop non-asbestos

79/ W.J. Nicholson, A.N. Rohl, R.N. Sawyer, E.J. Swoszowski, Jr., and J.D. Todaro, supra note 42, at 2.

products when it appeared that a ban on spray materials containing asbestos would be adopted. New products have been developed and have gained full UL approval. 80/

80/ 1979 Hearings, supra note 2, (statement of Herbert Levine) at 216-17, 219.

C. Potential School Health Hazards

The health hazards which asbestos exposure poses for the general population are serious. Inhaled asbestos fibers that are deposited in the lungs remain throughout one's lifetime. Fibers retained by the body do not dissipate or disintegrate; and, subsequent exposures to asbestos add to the body's burden of retained fibers.

It is believed that children face a greater risk of developing cancer than do adults exposed to asbestos fibers. 81/ In testimony presented before the House of Representatives Subcommittee on Elementary, Secondary and Vocational Education Oversight Hearings on Asbestos School Hazards, it was pointed out that several independent factors -- latency period, cigarette smoking, and children's rate of metabolism and increased activity, when taken together, increase the cancer risk for children exposed to asbestos.

Children are more likely than adults to survive sufficiently long for the carcinogenic effects of asbestos to be manifested. The lagtime associated with the induction of mesothelioma is typically between 35 and 50 years. The lagtime for cancer is between 20 and 30 years. Induced neoplasm in school-age children exposed to asbestos ... can be expected to manifest itself when these individuals reach middle age.

81/ 1979 Hearings, supra note 2, at 298.

In addition, many school children smoke or will smoke cigarettes.... As noted earlier, Selikoff and his co-workers have reported that workers who smoke and who are occupationally exposed to asbestos have 92 times the risk of dying of lung cancer than do workers who did not smoke and have not been exposed to asbestos. Asbestos workers who smoked had eight times the lung cancer risk of other smokers.

In addition to these factors, children, because of physiological characteristics and activity levels, are at a higher risk than adults to the hazards of airborne carcinogens such as asbestos. Children have a higher rate of air exchange and metabolism than adults and consequently exchange a relatively greater volume of air. Thus, per unit of body weight, children breathe more air than adults....

Added to this normal difference in air exchange rates is the fact that children are more active than adults. As the level of activity rises, so does the rate of exchange in the lungs -- roughly in an exponential manner.... Moreover, such physical activity in children is often associated with mouth breathing and consequently with a loss of the body's normal nasal filtering capacity. Further, because children are shorter than adults, they are more likely to come in contact with asbestos dust that gets stirred up from the floor. 82/

Another factor, not mentioned in this extract from the testimony, but which appears in the record of the Oversight Hearings, is that the rapid multiplication of cells during childhood may lead to a more rapid development of cancer in children than in adults. 83/

82/ Id. at 298-300.

83/ Id. at 3 and 6.

It should be noted that the National Institute for Occupational Safety and Health (NIOSH) has recommended strengthening the existing Occupational Safety and Health Administration (OSHA) workplace standard of 2f/cc by lowering it to 0.1f/cc -- the lowest detectable level. NIOSH "concluded that a variety of factors demonstrate that the current ... fiber standard is grossly inadequate to protect American workers from asbestos related diseases." 84/

Further, according to a leading expert, Dr. Robert N. Sawyer of Yale University:

...These standards are a result of a process that includes significant economic influence. No airborne exposure limits exist for school children. Further, the existing and proposed exposure limits have been decreasing. This reduction in limits, and the limitations of the microscopy system indicate that this approach to exposure evaluation may prove inadequate under any conditions.

Therefore, the technique of airborne fiber measurement, and comparison of data to occupational standards is not recommended for evaluation of contamination potential in schools. 85/

Reports of damaged asbestos surfaces in a Wyoming grade school, a California University dormitory, and the Yale School

84/ 3 Asbestos Litigation Reporter at 1777 (May 9, 1980).

85/ R. N. Sawyer, "Asbestos Report for Cinnaminson Township Public Schools, Cinnaminson, New Jersey" (May 5, 1979).

of Arts and Architecture were referred to in a recent scientific article:

In each case, public concern led to the removal of the asbestos material. In both the Wyoming school and the Yale Library, air measurements by optical microscopy showed asbestos concentrations that in some circumstances exceeded 5 f/ml, [fibers per milliliter], the time-weighted average occupational standard in effect at the time. In the Fall of 1976, flaking of sprayed-on asbestos was reported in a school in Howell Township, New Jersey, leading to its removal and to further concern about the presence of deteriorating asbestos in other school buildings in New Jersey. As a consequence, the New Jersey Department of Education requested that the school administrators report the presence and conditions of asbestos surfaces in all school buildings within the state. 86/

An asbestos industry insurer, Commercial Union Insurance Company has written:

Asbestos fibers that are ambient within the confines of public and private buildings subject millions of individuals to their inhalation on a daily basis. Foremost among this number are millions of people who have been exposed to the asbestos that has been used in construction of a large percentage of our nation's schools. . . .

The impact of such exposure is not known. However, the frightening possibility exists that a large portion of the American population could some day be plagued by diseases brought on by their everyday, incidental exposure to asbestos. 87/

86/ W. J. Nicholson, E. J. Swoszowski, A. M. Rohl, J. D. Todaro, A. Adams, supra note 54, at 587.

87/ Commercial Union Insurance Company, Environmental Issues Task Force, Asbestos -- A Social Problem at 14-15, (May 12, 1981).

In August, 1978, the Secretary of Health, Education and Welfare wrote letters to the Governors of all the states about the problem of asbestos in schools and enclosed a copy of the study of New Jersey schools. The Secretary urged the Governors to enlist the aid of public health and school officials to review the status of each state's schools. 88/

At the same time HEW began working with the Environmental Protection Agency to coordinate State surveys of schools for asbestos contamination. By the Summer of 1979, EPA's office of Toxic Substances provided a set of guidelines for all school districts. Meanwhile, House hearings were being conducted by the Education and Labor Committee's Subcommittee on Education, Secondary, and Vocational Education which resulted in the enactment of Public Law 96-270, the Asbestos School Hazard Detection and Control Act of 1980.

Concern over asbestos contamination in public and private schools and the associated health risks for school children (teachers, administrators, and custodians as well), is very real. School districts are being faced with strong

88/ 1979 Hearings, supra note 2, at 120-121.

parental demands to remove asbestos from schools, including school closings and law suits. 89/

89/ In December 1980, three parents of students attending Cramp Elementary School in Philadelphia, Pennsylvania filed suit in the Eastern District of Pennsylvania against the Philadelphia School District. In the suit, the plaintiffs ask the court to order the defendants to (1) establish a forty-five year \$20 million trust fund to pay off any future medical claims filed by students who, because of their exposure to asbestos in the schools, develop medical disabilities; (2) pay \$50,000 to each student; (3) pay \$10,000 to the parents of each child; and (4) pay \$10,000,000 in punitive damages to children and parents. Steigelman v. The School District of Philadelphia, CA 80-4729. (Asbestos Litigation Reporter at 2651 (December 12, 1980)).

VI. CASE STUDIES

This section discusses cases filed by two school districts -- Cinnaminson Township, New Jersey, and Dayton Independent School District, Texas -- seeking recovery from asbestos manufacturers. This section also discusses the Department's firsthand observations of three schools containing asbestos. The three schools the Department visited are Richardson Elementary School, Washington, D.C., Oxon Hill Junior High School, Prince George's County, Maryland, and Newton North High School, Newton, Massachusetts. The purpose of this section is to provide some insight into factual issues that will be encountered in litigation, such as identifying products and defendants, detailing the nature and extent of the damages, and the existence or absence of warnings.

A. Cinnaminson Township, Burlington County, New Jersey

The Cinnaminson Township Board of Education filed a lawsuit entitled Cinnaminson Township Board of Education v. National Gypsum Co., No. L-49430-79 (N.J. Super. Ct. Law Div., filed May 19, 1980). The defendants, National Gypsum Co. and U.S. Gypsum Co., have answered both the complaint and interrogatories, and the case has been tentatively set for trial in November, 1981. 90/

90/ On June 19, 1980, one of the defendants removed the case to the United States District Court for New Jersey, Trenton Division, C.A. No. 80-1842.

The board alleges that "Sprayolite," manufactured by National Gypsum Co., and "Audicote," manufactured by U.S. Gypsum Co., were used to coat the ceilings during construction (1959-1964) of Memorial School, Rush School, and Cinnaminson Junior-Senior High School.

The board also alleges that the products were hazardous and rendered the schools unsafe, and seeks recovery based on (1) strict tort liability, (2) breach of express and/or implied warranties of fitness and merchantability, and (3) negligence, including negligent manufacture, failure to warn, and failure to test.

The board seeks compensatory damages for the analysis, removal, and replacement of the "asbestos-bearing acoustical plaster ceilings," punitive damages, and indemnity against any future claims against the board for personal injuries allegedly caused by exposure to the asbestos. A motion to dismiss was directed only against the indemnity claim, and was granted on the ground that there was not a present case or controversy with respect to indemnity for future injuries.

The school district has expended over \$1 million to identify, analyze, remove, and replace asbestos in the three schools. Virtually all of the asbestos was on the ceilings.

In its answer, the National Gypsum Co. admits selling and manufacturing "Sprayolite" from May 12, 1955 through September 20, 1972, and that asbestos was included in the

product. The company denies that asbestos is a cause of cancer and alleges:

under normal circumstances, they [asbestos fibers] pose no health hazard. It is specifically denied that cancer or non-malignant lung disease can be caused by the low levels of exposure to asbestos fiber that are associated with the product Sprayolite. It is admitted that under certain circumstances, the inhalation of sufficient quantities of asbestos fibers may cause non-malignant lung disease.

The defenses National Gypsum Co. alleges in its answer include: failure to state a claim upon which relief can be granted; statute of limitations; assumption of the risk; contributory negligence; plaintiff the cause of damage; no recovery for economic loss; any injuries caused by others; failure to give notice of breach of warranties; no punitive damages available; if product dangerous, defendant unaware of that; and discovery of the danger was beyond the "state of the art."

The U.S. Gypsum Co. admits making "Audicote," and admits the product was advertised, promoted, distributed, and sold as safe, fit and suitable for use as a finish coating on some ceilings and walls where conditions were appropriate to the product," and admits that its product contained asbestos. This defendant denies, on the basis that it is without information or belief, that asbestos causes cancer and non-malignant lung diseases. The company alleges the following defenses:

failure to state a claim upon which relief can be granted; statute of limitation/laches; assumption of the risk; contributory negligence; any injuries caused by others over whom defendant had no control; failure to give timely notice of breach of warranties; and punitive damages not authorized.

The school board sought to ascertain during discovery, by use of interrogatories, any warnings or cautions which defendants contended accompanied the sale of their products. In its answer to Interrogatory No. 25, U.S. Gypsum Co. answered in the affirmative that it placed warnings or precautions on its acoustical plaster products. However, the company did not answer any of the subparts of the interrogatory, and simply referred to an attached exhibit. The exhibit is a six-page brochure entitled, "A New Way to Control Sound, Audicote Acoustical Plaster." The word asbestos does not appear in the brochure. Under a subsection entitled, "Where to Use It," the brochure states:

Audicote is recommended for use on ceilings or wall areas not subject to contact, excessive vibration or high moisture. It is ideal for use in classrooms, churches, offices, auditoriums, theaters, libraries, hospitals; in short, wherever beautiful, sound absorbent, fire-proof surfaces are desired. . . . The uniformity of textures resulting from spray applications make this product particularly suitable for use on large, unbroken expanses of ceiling.

National Gypsum Co. objected to Interrogatory No. 25 on the grounds that the terms "warnings and precautions" were not defined. However, the company also referred to Exhibit 4 of its answers to interrogatories. Exhibit 4 pertains to National Gypsum Co.'s product "Sprayolite" and, as in the case of U.S. Gypsum Co.'s brochure, contains neither warning, nor information that asbestos is an ingredient of the product. The exhibit does say, "apply only to ceilings and areas not subject to abrasion or wear." Under a subsection headed "Caution," the instructions read, "apply only to clean, monolithic surfaces," "mechanically mix no less than seven minutes," and "do not apply to areas where excessive humidity conditions will exist."

National Gypsum Co. identified the following companies as suppliers of asbestos fibers which were approved for use in its acoustical plasters: Phillip Carey Manufacturing Co., Ruberoid Co., Johns-Manville Co., Ltd., National Asbestos Mines, Asbestos Corp., Ltd., Johnson Co., Ltd., and Nicolet Asbestos Mines, Ltd. (Exhibits 5, 6 and 7 attached to National Gypsum Co.'s Answer to Interrogatory No. 27.)

Chrysotile was the type of asbestos used by National Gypsum Co. in "Sprayolite." (Answer to Interrogatory No. 28.)

National Gypsum Co. stated that no research was conducted, or tests or studies performed, to determine whether its

acoustical asbestos products posed any hazards or dangers to the health or safety of users or inhabitants of buildings where its products were applied. (Answer to Interrogatory No. 31.)

Both companies, in answering why asbestos was used as a component in their acoustical products, referred to: working properties; aids in spraying and pumping during application; functions as a water retention aid; and adding cohesion to keep the plaster in place during application and drying. (Answers to Plaintiff's Interrogatory No. 33.)

National Gypsum Co. stated that it "may have been a member or associate member at some time of" a number of trade associations, including the Asbestos Information Association of North America. (Answer to Interrogatory No. 44.) (U.S. Gypsum Co. objected to this interrogatory, contending that it was not relevant.) Other associations that National Gypsum Co. mentioned it may have been a member or associate of, include: the Mineral Fiber Association; the Ceiling and Interior Systems Contractors Association; Association of Wall and Ceilings Contractors International; Asbestos Cement Producers Association; Asbestos Textile Institute; Quebec Asbestos Mining Association; and the National Mineral Wool Association.

Defendants propounded interrogatories seeking information including: identity of school board members; plaintiff's

knowledge about defendants' products; details including dates and identities pertaining to specifications, construction, subcontractors, contractors, and architects; persons who inspected the building from commencement of construction until completion; details pertaining to tests and reports; applicable construction codes and standards; whether plaintiff was required to use asbestos in the construction of the schools; details pertaining to inspections after the school was completed; details pertaining to injuries, if any, from harmful effects, if any, from the asbestos; photographs or movies; details pertaining to bulk and air samples, if any; expert witnesses (identified in the answer as Dr. Robert Sawyer, New Haven, Connecticut -- expected to testify concerning the necessity for corrective action to remove or otherwise secure the asbestos-bearing ceilings in the subject schools); how it was determined that the particular company manufactured the asbestos product (the answer was that the specifications prepared by the architect specified "Sprayolite" and "Audicote"); details as to the removal of the asbestos if it has been removed; details pertaining to any alternatives to removal that were considered; and factors considered in selecting removal rather than some other corrective action. The school board's answer as to why it chose removal was:

Protection of the children and board employees; inability to prevent vandalism and inadvertent playful student contact with the ceilings; problems and costs associated with sealants and encapsulation and the constant monitoring and vigilance that such remedies would have required; inability of any government agency or other source to recommend an effective sealant or encapsulation that did not itself pose additional problems; long term costs associated with the use of sealants and encapsulators in connection with the difficulty or impossibility of eventual removal of the asbestos materials in a safe manner; the physical condition of the ceilings; recommendations of the Department of Education, Department of Health, our architects, and Dr. Sawyer.

This example is particularly important, since this is one of only two cases we know of, filed in the nation seeking recovery for the removal of asbestos from schools, and is the only case that has progressed into the discovery stage. The school board is being represented by Michael J. Vassalotti of the law firm of Brown, Connery, Culp, Willie, Purnell, and Green, located in Camden, New Jersey.

B. Dayton Independent School District,
Liberty County, Texas

The Dayton Independent School District filed a lawsuit entitled Dayton Independent School District v. United States Gypsum Co., No. B81-277-CA (U.S. Dist. Ct., E.D. Tex. Beaumont Div., filed April 22, 1981).

According to the allegations in the complaint, the school district contracted for the construction of the Stephen F.

Austin Elementary School in 1960, and the specifications called for ceilings and walls to include a finished coat of U.S. Gypsum Co.'s "Audicote." The district alleges that it performed an investigation "as dangers of asbestos exposure have become known to the general public," determining that the acoustical plaster furnished "contains, among other substances, chrysotile asbestos" and that "said plaster is friable because of the manner in which it was manufactured and is subject to decomposition, all thereby posing a potential hazard and necessitating eventual repair or removal of the said materials." (Compl. ¶ IV.)

The district's strict liability and negligence theories of recovery include allegations of failure to warn as to the "dangerous nature" of the product "or even that said product contained chrysotile asbestos," failure to test, and that the district was deprived of "information necessary to make an intelligent choice of whether the utility of the product outweighed the risk of harm." (Compl. ¶ V-VI.)

The district also alleges breach of the implied warranties of merchantability (U.C.C. §2-314) and fitness for a particular purpose (U.C.C. §2-315).

Also, the district alleges the defendant was guilty of fraud -- a "conspiracy of silence" -- in failing to warn and failing to recall its products, and deceptive acts within

the meaning of the Deceptive Trade Practices - Consumer Protection Act. See Vernon's Texas Civ. Stats., Bus. & Commerce Code, §17.41 et seq., Title 2.

The district seeks \$500,000 in compensatory damages to cover the losses anticipated in removing the product, \$1,000,000 in punitive damages, and treble damages under the Deceptive Trade Practices - Consumer Protection Act.

This action is in its initial stages. The district is represented by the attorneys, Marlin Thompson and Martin W. Dies, of Stephenson, Thompson and Dies, located in Orange, Texas, who won the landmark asbestos liability case, Borel v. Fibreboard Paper Products Corp., 493 F.2d 1076 (5th Cir. 1973), cert. denied, 419 U.S. 869 (1974). 91/

C. Richardson Elementary School, Washington, D.C.

The architectural plans drawn up by the District's School Architect (D.C. Department of General Services), specified that asbestos was to be used in the schools. For example, the following school specifications called for:

1. Backus Jr. High School - hallways and corridors, "sprayed fiber shall be 100% virgin asbestos fiber, free of all foreign matter."

91/ Recently, the same law firm filed another similar lawsuit, Evadale Independent School District (of Jasper County, Texas) v. U.S. Gypsum Co. and Celotex, No. B-81-293 CA (U.S. Dist. Ct., E.D. Tex., filed April 27, 1981).

2. Maury Elementary School - hallways and corridors, "sprayed fiber shall be 100% virgin asbestos fiber, free of all foreign matter."
3. Houston Elementary School - "Asbestos plaster walls."
4. Richardson Elementary School - The blueprint specified "sprayed asbestos - asbestos plaster ceiling."

The information needed to determine the manufacturer(s) of the asbestos in the District schools has been requested from the archives in St. Louis, Missouri, where the District's records are stored.

Richardson Elementary School was built in three sections. The main school was built in 1948 and a section was added in 1953. In 1959, sprayed-on asbestos material was installed on the ceilings of a newly added third section.

Two different types of testing were performed in the District's schools, to ascertain whether the asbestos was hazardous. First, if the asbestos was observed to be friable, a physical sample was taken by pushing a small container into the sprayed-on asbestos ceilings, and was sent to a lab certified by NIOSH in Rockville, Maryland. If the material contained more than one percent asbestos, the ceilings would either have to be removed, encapsulated or covered. At Richardson, this test evidenced over 50% asbestos in the sprayed ceiling material.

Ambient air testing was also done initially by the Department of Environmental Services. The Department tested

some of the schools by placing meters in rooms for approximately 24 hours. The filters in the meters were tested by the lab and evaluated. Ambient air tests were not performed at Richardson and were discontinued because they were perceived to be inadequate. 92/

It was found that the sprayed-on asbestos ceilings in Richardson were extremely friable. Therefore, all of the ceilings in the classrooms involved were sealed with a sealant called "Ox Line ABC Sealer." The ceilings in the hallways were covered with drywall and then painted. The work was completed in the summer of 1980.

The responsible District official noted that the sealant will only be effective for seven years. After that time, the ceilings should be removed, not re-encapsulated. A private contractor encapsulated the ceilings in the classrooms, and the District Department of General Services covered the

92/ The problem at that time and presently is that there is no asbestos standard for schools - only for the "workplace." The OSHA asbestos standard for the "workplace" effective July 1, 1976, re permissible exposure to airborne concentrations of asbestos fibers is "[t]he 8-hour time weighted average airborne concentrations of asbestos fibers to which any employee may be exposed shall not exceed two fibers, longer than 5 micrometers, per cubic centimeter of air. . . ." The ceiling concentration standard states that "no employee shall be exposed at any time to airborne concentrations of asbestos fibers in excess of 10 fibers, longer than 5 micrometers per cubic centimeter of air." According to NIOSH, there is no safe level of asbestos exposure.

ceilings in the hallways. The cost of encapsulation was about \$6-8 per square foot, as opposed to \$18-22 for removal.

We visited several classrooms. The asbestos ceilings were visible because they had only been encapsulated with a clear substance. The appearance was spongy and the material felt soft like a sponge, under hand pressure.

One teacher stated that she had been teaching in Room 131 for approximately 20 years, and that particles have been falling into the classroom from the ceiling since she started working there. Another teacher who has taught in Room 117 for approximately seven to eight years, also said that prior to its being sealed, the asbestos ceiling continuously crumbled into the classroom.

The Department of Environmental Services, Washington, D.C. initially inspected 85 District schools in its annual school inspections of 1977 and identified five schools as having an extensive amount of exposed asbestos material. In addition to those five schools, preventive measures have also been taken at five other schools. To date, the actual cost for encapsulating (no removal) asbestos in portions of ten schools located in the District totals \$550,307. The schools involved and the actual encapsulation costs are as follows: 93/

93/ Interview with Dominic Annino, Safety Manager of Washington, D.C. Public Schools, April 29, 1981.

1. Backus Jr. High School (all corridors)	\$110,000.00
2. Drew Elementary School (all corridors)	\$ 76,100.00
3. Houston Elementary School (speech therapy rooms)	\$ 2,400.00
4. Maury Elementary School (all corridors)	\$ 7,400.00
5. Richardson Elementary School (class rooms and corridors)	\$ 47,100.00
6. Hamilton Jr. High School (all corridors)	\$114,074.00
7. Lincoln Jr. High School (all corridors)	\$187,113.00
8. Mamie D. Lee Special School (library)	\$ 4,620.00
9. Grant Middle School (boiler room)	\$ 700.00
10. Hine Jr. High School (boiler room)	\$ 800.00

It is estimated that in seven years it will cost the District of Columbia at least \$1.5 million to remove the asbestos that was encapsulated, as the process is not expected to provide protection beyond that time, and can not be successfully repeated.

Only those areas and materials which were declared "hazardous" in nature were encapsulated. Asbestos ceiling tile, asbestos floor tile, asbestos blankets, and asbestos insulation can still be found within the District Public Schools.

D. Oxon Hill Junior High School, Prince
George's County, Maryland

By 1977 Prince George's County officials became aware that potential hazards existed concerning some uses of asbestos.

At that time potential hazards were being publicized and the county received flyers providing information on the nature of the asbestos problem.

Between February and August 1976, air monitoring samples were taken in all of Prince George's County Junior and Senior High Schools for a report prepared by the State Department of Labor and Industry on asbestos exposure in Prince George's County. Both commercial and State laboratories tested the air samples. However, the air monitoring tests were inadequate for the same reasons discussed above regarding the Washington, D.C. schools.

In early 1979, the State of Maryland sent a letter to the schools explaining the method of collecting bulk samples. Bulk samples were taken from the schools in Prince George's County during the months of April and May 1979 after training the custodial personnel to locate and collect sprayed insulation samples. In May of 1979, samples from all schools in the County which evidenced sprayed-on acoustical materials were sent to the State Health Department for analysis.

The School Board requested an estimate of the costs for removal or encapsulation of the asbestos. The School Board initially wanted to encapsulate or construct a dropped ceiling. However, it was decided that encapsulation or a dropped

ceiling was not the best alternative because maintenance men continue to work in these potentially hazardous areas which in effect are simply concealed from public view. Further, encapsulation is only a temporary measure. Eventually, the extra weight of the encapsulating material actually helps to loosen the friable material from the coated surface. Additionally, new reports were published concluding that the presence of asbestos fibers in the air in any quantity is a health hazard. Based on these factors, a decision was made that the only solution would be to remove the friable asbestos.

The School Board received the results of the samples in July 1979. Of the 216 total schools, 20 were found to have asbestos. Generally, the asbestos is located in the industrial arts rooms and the boiler rooms. Twelve of the schools were found to have the hard cementitious type of asbestos insulation, which did not need to be treated. The Health Department determined that the asbestos in the eight remaining schools would have to be removed. ^{94/} To date the Prince George's County Schools have removed the asbestos from six schools and plans are being made for the removal of asbestos from the final two schools during the summer of 1981.

^{94/} Initially there were nine schools from which asbestos was to be removed from a total of 26 rooms, each measuring about 1,200 square feet. One of the nine had asbestos in a single boiler room, and a decision was made not to remove the insulation.

The removal of asbestos from the eight schools in Prince George's County has been costly. The County spent \$83,000 in the Summer of 1979, \$90,000 in the Summer of 1980, and \$86,500 will be spent during the Summer of 1981, for a total of \$259,500. Considering that under normal conditions the lifetime of a school is fifty years, \$259,500 is a significant public burden in times of skyrocketing demands on taxpayers and greater scrutiny of public expenditures. The school district must take monies originally intended for other school district programs to pay for the asbestos removal projects.

The Board of Education's first experience in 1979 with the removal of asbestos, led to a dispute between the board and the company selected. The board alleged that the removal was not performed in a safe and satisfactory manner.

During the summer of 1980, asbestos was removed from two additional schools by a different company. The cost was \$10 per square foot for removal, plus \$2.25 per square foot to finish the area after the asbestos was removed, for a total of \$90,000. 95/

95/ Of the \$90,000, \$65,000 went toward removal and the remaining \$25,000 for re-encapsulation. Re-encapsulation adds approximately 33% to the cost of removing the asbestos.

This summer asbestos will be removed from the two remaining asbestos insulated schools targeted for remedial action. The estimates for removing asbestos this summer are \$68,750 for Oxon Hill Jr. High School and \$17,750 for Mary Bethune Junior High School. A new thermal acoustical material will be installed at \$4.00 per square foot to replace the asbestos removed. Previously, a new covering having no soundproof properties was simply applied to "finish off" the room. This was inadequate because the machines used in the industrial arts rooms emit considerable noise.

We visited three of the industrial arts rooms at Oxon Hill Junior High - Rooms 103, 101 and 100. The ceiling insulation was gray, thick, porous and very friable. There were many areas where large sections of material had fallen or been broken off. One classic sight was that of a pencil which was apparently thrown, as if it were a dart, at the ceiling in Room 103. The impact of the pencil would be sufficient to cause the release of fibers into the air. There were also cracks that looked like students had dug or pried at the asbestos with a long handled broom. Our frank opinion is that when used on a ceiling, the very appearance and characteristics of the material, is unfortunately such as to attract many school-aged individuals to scrape or gouge the material.

The condition of the boiler room insulation was very friable. The asbestos insulation was barely clinging to a metal lath attached to the ceiling; we could see pieces of the sprayed insulation on the verge of falling off. Every week the floor is watered down by custodial personnel with a hose to remove the asbestos that has fallen.

County records state that the sprayed asbestos used on the ceilings was "Asbestospray" furnished by the Spraycraft Corp., Brooklyn, New York.

E. Newton North High School, Newton, Massachusetts

The \$16 million four story Newton North High School constructed between 1970-1973 is a steel-framed structure. The specifications called for all steel beams, columns and metal decking to receive a direct-to-steel, sprayed-on fire-proofing material containing asbestos fibers. 96/ As a result, Newton North contained approximately 400,000 square feet of sprayed-on asbestos. 97/ The records reflect that the sprayed-asbestos material in the high school became a matter of concern in 1972. As a result, some of the beams were boxed

96/ Of the four floors at Newton North the top floor ceilings had mineral wool sprayed on the steel beams instead of asbestos.

97/ The manufacturer of the asbestos material (CAFCO Blaze-Shield D) is U.S. Mineral Products Co. of Stanhope, Virginia.

in by the general contractor during the winter of 1972-1973 at a cost of about \$50,000. This effort was stopped in late August of 1973 so that the school could open in September of that year.

Initially, asbestos was used at Newton North because at that time it was: 1) recommended by the architect in the specifications, 2) a popular product and was less expensive than mineral wool, and 3) believed to be a good fire retardant material.

In July and November of 1973, air tests were taken by the Commonwealth's Department of Labor and Industries, Division of Occupational Hygiene, Boston, Massachusetts. The testing was performed by phase contrast microscopy recommended at that time by NIOSH and OSHA. The July test revealed "very little contamination that can be directly attributable to asbestos was found at this time. A recommendation is made nevertheless, that the beams sprayed with Blaze Shield D be boxed-in or contained in some way...." At that time the air analysis results reflected 0.09 or less fiber particles (greater than 5 microns in length per milliliter of air). The November air analysis results reflected less than 0.5 asbestos fibers (greater than 5 microns in

length per milliliter of air) versus a maximum (at that time) OSHA allowable concentration of 5.0. ^{98/} In view of the public's concern and the recommendations, the goal was to box-in all the remaining asbestos covered beams, columns and metal roof decking during the 1974 vacation period.

On June 11 and 12, 1974, representatives of the Skinner and Sherman Lab visited Newton North for the purpose of removing samples of material from 108 designated areas in the school. There was great concern that the motors in the shops were causing asbestos to loosen and become airborne.

^{98/} Leonard D. Pagnotto, Chief of Laboratory, Department of Labor and Industries, Division of Occupational Hygiene, Boston, Massachusetts in his July 25, 1973 letter to Dr. Elkins, Assistant Superintendent for Business Services stated that even though the test results showed low counts, "there should be concern about asbestos fiber exposure over the long term. In time the fireproofing material will dry; some of it will pulverize and be carried by ventilation into the room air." It was observed in their survey of Newton North that there were areas where steel beams are readily accessible to students (boys' locker room 1213 and team room 2274). The ceilings in the workshops and storage areas have several large beams covered with asbestos. Overhead heater-blowers found in the auto-mechanic and auto-body shops when operating, create a heavy movement of air and produce dustiness in those rooms. The beams in the cafeteria and the "Main Street" corridor are partially covered by wood ceilings/slats. "In view of the adverse long-term lung effects of asbestos, it is recommended that beams covered with asbestos, Blaze Shield D, be contained in some way. Top priority should be given to areas such as the boys' locker room where the asbestos is readily accessible to the students. Next are the workshops and some of the heavily used storage areas. Eventually all the asbestos should be covered."

Dr. Nicholson and Dr. Selikoff looked over the situation, took samples, and made priority area recommendations. The shop areas and utility closets were boxed-in.

In 1974, at the request of Mayor Mann, \$208,000 was expended on remedial asbestos action at Newton North. Most of the funds (\$193,000) were utilized to seal the remaining exposed asbestos (except above the wood slatted ceilings) and finish (tape and paint) the 1973 work. The remaining funds were used for design (\$5,000) and testing (\$10,000) to determine the exact location of the asbestos fireproofing material.

Dr. Charles Spooner, GCA Corporation, Bedford, Massachusetts, in his report of December 11, 1979, entitled, "Analysis of Bulk and Air Samples For Asbestos in the Newton North High School," stated that "a total of 386 bulk samples were taken from different locations throughout the school for the direct determination of the asbestos content. The bulk analyses were performed by polarized light microscopy recommended by EPA. Approximately 20 percent of the samples were devoid of asbestos; however, the mineral was found on all floors of the school at levels of concern from a health aspect."

Dr. Spooner recommended that removal be carried out in "those areas shown only to contain asbestos that is not due to spacious contamination. Enclosure would be an acceptable

alternative control measure in areas which cannot be vandalized. The 'action level' above which control measures are needed should be clarified with the U.S. E.P.A. and State authorities."

Dr. Spooner stated that "[e]xposure of a school population to asbestos is needless and application of a workplace standard is inappropriate. The fiber levels determined by air sampling are low; however, this type of analysis may be misleading since we are dealing with a low level chronic exposure of many years duration. A 4-hour air sample simply cannot be expected to reflect accurately the exposure integrated over a period of years."

To date, approximately \$600,000 has been expended on the Newton North asbestos abatement program. 99/ The State of Massachusetts

99/ According to Allan Fraser, Building Commissioner of the Newton Public Schools, Newton, Massachusetts, interviewed on April 9-10, 1981, the actual costs of asbestos abatement at Newton North to date are as follows:

\$254,000	Boxing-in beams with asbestos areas and utility closets between 1972-1973.
\$ 25,000	Dr. Spooner's analysis of bulk and air samples and report (report done in December, 1979 in support of work for Summer 1980).
\$ 5,000	Testing during removal process/quality control.
\$312,934	Removal of asbestos from Newton North.

(Footnote 99/ continued on next page.)

granted Newton North approximately \$125,000 which came from a \$2 million state grant for schools with asbestos problems (per Legislative Asbestos Commission, State House, Boston, Massachusetts).

Plans called for the rest of the asbestos to be removed in the summer of 1981, but no money is budgeted for this because of the November 4, 1980, state legislation which cut taxes fifteen percent. To accomplish the removal of the remaining 200,000 square feet of asbestos in Newton North, Seagull Environmental Co. has submitted an estimate of \$1.8 million.

(Footnote 99/ continued.)

\$ 12,000	Disposal of asbestos (trucked in sealed containers to Halifax, Massachusetts - \$22.00 per cubic yard).
\$ 14,161	Moving furniture, books, etc. (out and back into rooms).
\$ 1,000	Cleaning drapes.
\$ 500	Police overtime/secure building.
\$ 100	Printing bid specifications.
\$ 40	Advertising.

CASE STUDY CONCLUSION

The case studies have revealed that: 1) ambient air testing often shows very low exposure levels even in situations in which physical bulk sampling confirms the presence of friable asbestos; 2) records kept by the school districts or in state archives can indicate the line of distribution of the asbestos, -- architect, general contractor, manufacturer and type of asbestos used; and 3) due to the soft spongy nature of friable asbestos, students are likely to damage it. Visual observation often confirms that asbestos has in fact broken away from ceilings.

The asbestos abatement programs have created considerable financial burdens and hardships for school districts which have been exacerbated by cuts in school budgets. The funds expended to date at the three schools visited, total \$715,800 to encapsulate, seal or remove friable asbestos, with additional expenditures anticipated or believed necessary. In some cases, asbestos containing materials are remaining in schools because of financial constraints and competing priorities.

From a legal standpoint, it appears that 1) friable asbestos was installed in the schools in the absence of warning as to dangers, and 2) it is still possible to identify the manufacturer of the sprayed asbestos material.

LEGAL ISSUESSUMMARY OF DUTY, BREACH OF DUTY,
INJURY AND LIMITATIONS ISSUES

The liability issue concerns whether a school district, or the United States on a district's behalf, may recover the costs of detecting, containing or removing asbestos from schools. Asbestos is a carcinogen and has been the cause of thousands of deaths in industry due to inhalation of asbestos fibers. ^{100/} The concern is that as a result of common occurrences, such as building vibrations due to equipment operation, friable asbestos releases fibers into the air, and therefore constitutes a hazard to the health of students and school employees.

This report focuses on legal as opposed to factual issues -- whether a cause of action for recovery can be stated on behalf of a school district so as to survive a motion to dismiss. Even if that can be done, it would still be necessary for the school district to establish its factual allegations at trial in order to recover. This report discusses the legal issues primarily in terms of the school districts, since the United States would stand in their shoes, for most purposes, under the terms of the Asbestos School Hazard Detection and Control Act of 1980.

^{100/} Commercial Union Insurance Companies, Environmental Issues Task Force, Asbestos -- A Social Problem at 12-14 (May 12, 1981) (estimates 67,000 cancers will be attributable to asbestos exposure per annum, "or about 17% of all cancers detected annually in the United States.").

In order for a school district to recover from asbestos manufacturers the costs of removing or containing friable asbestos, it will be necessary to establish that a defendant breached a duty, which resulted in a legally cognizable injury to the plaintiff. In this regard, contract and tort theories of liability were reviewed. As discussed below, few fact patterns will allow actions based on contract theories due to statute of limitation problems. Review of tort theories for addressing hazardous activities and dangerous products were also explored, leading to focus on products liability theories and the theory of restitution.

The proof required of a plaintiff seeking to recover for injuries from an unsafe product is very largely the same, whether his cause of action rests upon negligence, warranty, or strict liability in tort. 101/

"[T]he plaintiff has the initial burden of establishing three things. The first is that he has been injured by the product." 102/
 "The second is that the injury occurred because the product was defective, unreasonably unsafe." 103/ "The third is that the defect existed when the product left the hands of the particular defendant." 104/

The purpose here is to provide a very general outline of the elements common to any potential theory of recovery.

101/ Prosser, Law of Torts at 671 (4th ed. 1971).

102/ Id.

103/ Id. at 672.

104/ Id.

A. Duty

The predicate for an action related to asbestos in the schools is to establish that the defendant had a duty to the plaintiff.

[A] manufacturer or even a dealer has a responsibility to the ultimate consumer, based upon nothing more than the sufficient fact that he has so dealt with the goods that they are likely to come into the hands of another, and to do harm if they are defective. 105/

This responsibility has become generally accepted since the manufacturer of a car with a defective wheel was held liable for negligence to the ultimate purchaser, who was injured by the vehicle's collapse, in MacPherson v. Buick Motor Co., 217 N.Y. 382, 111 N.E. 1050 (1916).

The asbestos manufacturers, therefore, have been subject to a duty not to cause foreseeable harm to purchasers of their products, or to those in the vicinity of the product's probable use. 106/ This duty is similar under the relevant theories of action. This Report reviews restitution, and the products liability theories of strict liability, negligence, and implied warranty.

B. Breach of Duty

To the extent that friable asbestos is dangerous, the danger appears to be "inseparable from a properly made product of the

105/ Id. at 642.

106/ Id. at 662.

particular kind." 107/ However, the products may also have been improperly designed -- "[a]sbestos product manufacturers say that such [health] problems have now been eliminated by binding asbestos into other materials or encapsulating it so that the deadly fibers cannot escape." 108/

In Section I it was pointed out that asbestos has many important uses. However, a manufacturer, even of a useful, properly made product, may still be held negligent for failing to test a product to discover dangerous propensities, pursuant to the standard expected of an expert in the field, 109/ or for failing to give adequate warnings of unreasonable dangers which it knows, or should know, arise from the use of the product. 110/ "The warning must be sufficient to protect third persons who may reasonably be expected to come in contact with the product and be harmed by it." 111/ These duties -- to test and to warn -- appear to be the specific duties making up the asbestos manufacturers' general duty to not cause harm to the users of friable asbestos.

There appear to be two alternative resolutions of the breach of duty issue. First, it may be determined as a matter of law based on previous asbestos litigation that there clearly was a duty to warn of the dangers of friable asbestos used in the

107/ See id. at 647.

108/ New York Times, July 6, 1981 at D2.

109/ Prosser, Law of Torts at 644 (4th ed. 1971).

110/ Id. at 646-7.

111/ Id. at 647.

schools. The only remaining issue would be the factual one of whether warnings -- if any -- were adequate. Or, a court could hold that there is an unresolved foreseeability issue based on the difference in the risk caused by environmental exposure of students and school employees to friable asbestos, as contrasted to workplace exposures of factory workers and insulation installers to asbestos. 112/

It was pointed out in Section IV that a pivotal asbestos liability case, Borel v. Fibreboard Paper Products Corp., 493 F.2d 1076, 1104 (5th Cir. 1973), cert. denied, 419 U.S. 869 (1974), determined that all of the asbestos manufacturers involved in that case provided no warnings accompanying their products prior to 1964, and that the warnings several of them provided after that date were inadequate. In Section VI, it was pointed out that the two defendant asbestos manufacturers who have responded to discovery in school district litigation have admitted failure to test, and were unable to show that warnings accompanied their products. In fact, industry documents summarized in Section IV show that leading asbestos manufacturers and the then-active industry trade association -- the Asbestos Textile Institute -- actively sought to obscure data linking occupational asbestos exposure to asbestosis and cancer.

112/ Cf. Karjala v. Johns-Manville Products Corp., 523 F.2d 155, 158 (8th Cir. 1975) (upholding jury instruction under which jury decided issue of whether known danger to factory workers put manufacturer on notice of danger to insulation workers).

The asbestos manufacturers had duties to test and to warn if the "harm" suffered by school districts, or threatened against the students and employees for which the school districts are responsible, was or should have been foreseeable.

Clearly, asbestos is a carcinogen. 113/ However, "products containing asbestos fibres have great utility in an industrial society. . . . Asbestos-related cases provide the courts with a classic utility versus danger evaluation." 114/

Because asbestos products both have great utility but pose grave danger, 115/ the court in Hardy v. Johns-Manville Sales Corp. has held "that the only way for insulation products which contained asbestos to escape the strict liability conclusion that the products were unreasonably dangerous as marketed was for such products to have been marketed with an adequate warning." 116/ "The danger of the generic ingredient is the same irrespective of the finished product. The degree of danger may vary with the finished product and, consequently, the duty to warn may vary." 117/ The court also held that the duty to warn of the danger posed by asbestos

113/ See Section III, *infra*; Reserve Mining Co. v. EPA, 514 F.2d 492, 508 (8th Cir. 1975), modified, 529 F.2d 181 (8th Cir. 1976); Hardy v. Johns-Manville Sales Corp., 509 F.Supp. 1353, 1354-55 (E.D. Tex. 1981). Asbestos is treated as a toxic and hazardous substance under federal regulations. See 29 C.F.R. 1910.1001 (1980).

114/ Hardy v. Johns-Manville Sales Corp., *supra*, 509 F.Supp. at 1355.

115/ *Id.* at 1360.

116/ *Id.*

117/ *Id.* at 1362.

has already been established by prior decisions -- by collateral estoppel, in the case of non-insulation products as well as the insulation products which were the subject of the first asbestos liability cases. 118/ However, "[t]he question of adequacy of a warning, if any was given, is a jury issue in the non-insulation cases." 119/

The conclusion is that as a minimum the known danger of occupational exposures to asbestos fibers should have caused the manufacturers to test their friable or easily damaged products to determine whether they would emit fibers after installation, thereby posing a hazard to consumers. 120/ If in fact the asbestos products do emit fibers -- and it appears that they do, as a result of common occurrences including deterioration, maintenance activities and student contact -- 121/ the duty to warn seems plain.

Accordingly, the duty to warn may be established in cases brought by or on behalf of school districts, either by way of

118/ Id.

119/ Id. Collateral estoppel or "issue preclusion" may now be used offensively as well as defensively, and "mutuality" of parties is no longer required. See Parklane Hosiery Co. v. Shore, 439 U.S. 322 (1979). The Circuits are not in accord as to whether federal collateral estoppel principles control successive federal diversity actions. Compare Aerojet-General Corp. v. Askew, 511 F.2d 710 (5th Cir.), cert. denied, 423 U.S. 908 (1975) (federal law) with Semler v. Psychiatric Institute, 575 F.2d 922 (D.C. Cir. 1978) (state law).

120/ Also, there clearly is a risk of exposure to workers during installation or removal of the products.

121/ See Sections V and VI, supra.

collateral estoppel as the result of previous litigation, or as a readily demonstrable factual proposition. It also appears likely that the school districts will be able to establish failure to warn and failure to test.

C. Injury

The first task of any products liability plaintiff is to prove his injury. 122/ This involves two aspects; first, the factual existence of injury, and second, the issue of whether the injury is one for which recovery may be obtained.

1. Factual Nature of the Injury

The presence of friable asbestos can and does result in the release of asbestos fibers, which are carcinogenic, into the ambient air of schoolrooms. 123/ The Environmental Protection Agency estimates the prevailing concentration of asbestos in buildings having exposed friable asbestos-containing materials to be between 58 and 270 nanograms per cubic meter, whereas the "ambient air is usually below 10 nanograms per cubic meter." 124/ On the other hand, even the upper figure of 270 nanograms per cubic meter is extremely low in comparison to the occupational standard of 2 fibers per cubic centimeter 125/ which equates to 60,000 nanograms per cubic meter. But, the OSHA standard itself

122/ White & Summers, Uniform Commercial Code, Section 9-1 at 326 (2d ed. 1980).

123/ See Sections V and VI, supra.

124/ 45 Fed. Reg. 61,966 at 61,969 (Sept. 17, 1980).

125/ 29 C.F.R. 1910.1001 (1980).

has been criticized by the National Institute of Occupational Safety and Health as being "grossly inadequate" on the ground that there is no safe level of exposure to asbestos. Furthermore, an occupational standard which has been compromised by taking economic considerations into account does not establish that low level environmental exposures are not harmful. 126/

The fact is "[t]here are many reports of cases [of mesothelioma, a rare form of cancer] following short exposures -- a few weeks. Cases have followed exposure to dusty clothes in the home." 127/ At least one court has found that "mesothelioma may result from one exposure to asbestos dust or fibres." 128/

The contention that in the absence of warning -- which would allow the user to make an informed choice whether the utility of the product outweighs its dangerous propensities, friable asbestos products causing a significantly higher than normal exposure to airborne asbestos fibers are unreasonably unsafe, sounds reasonable. In fact, it has been held as a matter of law that "products placed in the stream of commerce containing asbestos are defective for the reason that the same are unreasonably dangerous to the consumer or user of the product." 129/

126/ See text in Section V, at 55, note 84, supra.

127/ J.C. Gilson, supra, Section III, note 38, at 400.

128/ Hardy v. Johns-Manville Sales Corp., supra, 509 F.Supp. at 1355.

129/ Mooney v. Fibreboard Corp., 485 F.Supp. 242, 250 (E.D. Tex., 1980). See also Hardy v. Johns-Manville Sales Corp., 509 (footnote continued)

Also, Congress has found that "the presence in school buildings of friable or easily damaged asbestos creates an unwarranted hazard to the health of the school children and school employees who are exposed to such materials." ^{130/}

This Report does not undertake to second-guess the Congress by attempting to resolve the issue of whether friable asbestos products are hazardous to students and school employees. The courts may make the determination that the products are hazardous either as a matter of law, by applying collateral estoppel, or by determining the disease relation of the product by resort to judicial notice of adjudicative medical fact, pursuant to Federal Rule of Evidence 201(b)(2), and (c). ^{131/} In the alternative, the issue of injury will be determined by juries or judges on the basis of expert scientific and medical evidence. It does appear clear that it will be necessary to establish that the products as used are hazardous, as a prerequisite to recovery.

2. Legal Nature of the Injury

Recovery for injuries caused by unreasonably unsafe products may be sought under the tort theories of strict liability and negligence, and the theory of implied warranty. The recoveries

(Footnote continued)

F.Supp. 1353 (E.D. Tex. 1981); Flatt v. Johns-Manville Sales Corp., 488 F.Supp. 836 (E.D. Tex. 1980). But see McCarty v. Johns-Manville Sales Corp., 502 F.Supp. 335 (S.D. Miss. 1980).

^{130/} 20 U.S.C. 3601(a)(6) (1980).

^{131/} See Hardy v. Johns Manville Sales Corp., *supra*, 509 F.Supp. at 1362-63 ("Asbestos-related litigation is an appropriate candidate for collateral estoppel because it is a mass tort, a tort against a large undefinable group of people by industry.").

contemplated by the Asbestos School Hazard Detection and Control Act are for the costs of detecting, containing or removing hazardous asbestos products. There is a critical issue as to the legal nature of the injury:

[W]e use the terms "property damage" on the one hand and "economic loss" on the other to describe different kinds of damages a plaintiff may suffer. An action brought to recover damages for inadequate value, costs of repair, and replacement of defective goods or consequent loss of profits is one for "economic loss." Property damage, on the other hand, is the Restatement's "physical harm . . . to [user's] property." If one purchases a new truck and finds that the radiator has to be replaced at a cost of \$300, he would suffer an economic loss of at least \$300 rather than property damage . . . Of course, borderline cases can arise that do not fit comfortably in either the property damage or the economic loss category. ^{132/}

In general, a majority of courts deciding the issue have held that unlike damages for personal injury or physical property damage, economic loss is not recoverable in a products liability action -- whether founded on strict liability, negligence, or implied warranty. There is, however, a division of opinion, and the more persuasive decisions discussing the issue have allowed recovery of economic loss if it is caused by a hazardous product, or if it results from a tort "independent" of the sale of a defective product -- such as failure to warn.

Accordingly, it will be necessary for the school districts to either establish that economic loss is recoverable here, or that

^{132/} White & Summers, Uniform Commercial Code, Section 11-4 at 405 (2d ed. 1980).

the rendering of school buildings unsafe, together with the need to physically tear away asbestos products from the buildings, constitutes physical damage to property. There is a dearth of authority on this latter issue. 133/

Because of the importance of the "economic loss" issue, and because it is a legal issue with which the Department can address in a general report of this kind, the economic loss issue is discussed in the next section of this Report.

D. Statutes of Limitation

Since the Environmental Protection Agency banned the spraying of materials containing more than one percent asbestos in 1973, most of the situations with which we are concerned stem from the installation of asbestos prior to that date. 134/

Accordingly, the various state statutes of limitation present obvious obstacles to the successful recovery of abatement costs through litigation. Statutes of limitation may serve to bar an action even though all of the elements just discussed which would otherwise allow recovery exist. In almost all cases, the time period elapsed since installation of the asbestos will be longer than the period allowed for bringing actions under the applicable statute of limitation. The critical issue, then, is when will

133/ See discussion of *Arizona v. Cook Paint & Varnish Co.*, 391 F.Supp. 962 (D. Ariz. 1975), *aff'd*, 541 F.2d 226 (9th Cir. 1976), *cert. denied*, 430 U.S. 915 (1977), at 113, *infra*.

134/ See 38 Fed. Reg. 8,820 (1973). However, the regulations allowed spraying for decorative as opposed to insulation purposes until 1978. See 43 Fed. Reg. 26,372 (1978).

the cause of action be viewed to have accrued, so as to commence the running of the statute of limitation?

Restitution is an especially attractive remedy because there is authority holding that the performance of one's duty to the public by another creates a contract implied in law, with the limitation period running from the comparatively late date on which the duty is finally performed. Products liability claims under strict liability, negligence, or implied warranty theories are the primary alternative or additional claims to an action seeking restitution.

In contrast to products liability tort claims, products liability contractual claims, such as breach of implied warranty of fitness or merchantability, may be clearly barred by applicable statutes of limitation. Even though contractual limitation periods are often longer than tort limitation periods, they also often commence at the time of delivery rather than the later date of "manifestation" of injury. ^{135/}

In tort cases, however, many courts have adopted a manifestation rule, providing that the governing tort statute of limitation does not start running until the injury manifests itself. See, e.g., Insurance Co. of North America v. Forty-Eight Insulations, Inc., 633 F.2d 1212, 1220 n.13 (6th Cir. 1980), (personal

^{135/} See U.C.C. §2-725 (1976). The U.C.C., it must be noted, may not be applicable because sprayed asbestos, to be a sale of goods within the meaning of the U.C.C., must, since it is attached to realty, be capable of severance "without material harm thereto" and must have been movable at the time of identification to the contract. U.C.C. §52-105, 2-107 (1976).

injuries). As an example, in Rosenau v. City of New Brunswick, 51 N.J. 130, 238 A.2d 169 (1968), the defendant manufacturer sold a water meter to a city in 1942, which in turn installed the meter at plaintiff's home in 1950. The meter broke in 1964, causing damage to the plaintiff's property. The court held that the six-year statute of limitation for tortious injury to property started running at the time the meter broke because there was no cause of action prior to that time. Even in the case of contractual theories, statutes of limitation may not always prove to be insurmountable. See Southgate Community School District v. West Side Constr. Co., 399 Mich. 72, 247 N.W.2d 884 (1976) (consumer school district not in privity with manufacturer of defective floor tiles).

The United States could sue in federal court pursuant to 28 U.S.C. 1345 (1976). School districts could sue either in state court, or federal court if the grounds for diversity jurisdiction were met. See 28 U.S.C. 1332 (1976). A six-year statute of limitation is provided with respect to federal actions on contracts, 28 U.S.C. 2415(a) (1976), and a three-year period applies to federal actions on torts, 28 U.S.C. 2415(b) (1976). All periods in which "facts material to the right of action are not known and reasonably could not be known by an official of the United States charged with the responsibility to act in the circumstances" are excluded from the limitation period. 28 U.S.C. 2416(c) (1976). The United States would seemingly be in a very favorable position under the federal limitation periods. But, if the action is "derivative" -- and a strong case can be made that an action to recover "on behalf of" a school district is derivative -- the

assignment of the cause of action to the United States must take place prior to the running of the applicable state limitation period, for the federal right of action to survive. ^{136/}

Accordingly, it is likely that the issues posed by governing state statutes of limitation are as important to the United States in this situation as they are to the school districts. It will generally be necessary, then, to successfully state a claim either for restitution or for a tort, and to establish a comparatively recent "accrual" date.

CONCLUSION

From the analysis which follows, it may be concluded that restitution is the preferred cause of action, and that strict liability and negligence, predicated on failure to warn and failure to test, also are viable theories of recovery. There is room for optimism on the statute of limitation issue based on the fact that the dangers of friable asbestos have only recently been brought to the attention of the government and the public. The manufacturers still contend that their products are not dangerous. Thus, actions may still be timely despite the passage of time involved, under restitution, "discovery," and "manifestation" statute of limitation principles.

^{136/} E.g., 1A, Pt. 2 Moore's Federal Practice, ¶ 0.321 at p.3291 (2d ed. 1980).

I. ECONOMIC LOSS AS A COMPENSABLE INJURY

A. The Economic Loss Issue

The economic loss issue is raised by the fact that an action for restitution to recover the costs of removing and replacing asbestos in the schools has the characteristics of a products liability action. The allegation would be that friable asbestos, by reason of being a carcinogen, is defective, creating a hazardous condition requiring removal. If removed prior to causing death or physical injury, the actual injury is characterized in products liability jurisprudence as "economic loss." There is a body of case law to the effect that "economic loss" is not recoverable in a products liability action -- absent the existence of an express warranty.

A successful products liability suit offers an injured individual three potential forms of recovery: (1) "personal" damages, which compensate for bodily harm; (2) "property" damages, which compensate for injury to property other than the defective product; and (3) "economic" damages, of which "direct" compensate for harm to the defective product itself and "consequential" for harm to business expectations, such as profits and good will. Presently, the majority of courts allow recovery for personal and property damages under the theory of strict liability in tort, but limit recovery for "economic" loss to cases involving breach of an express warranty. ^{137/}

Also, even if an implied warranty action to recover economic loss is allowed, the contract statute of limitation, which usually

^{137/} Note, Economic Losses and Strict Products Liability: A Record of Judicial Confusion Between Contract and Tort, 54 NOTRE DAME LAWYER 118 (1978).

starts running at time of delivery, will serve to bar recovery unless recovery is allowed on a tort theory -- which usually involves more favorable cause of action accrual rules.

The problem is illustrated by the decision in Jones & Laughlin Steel Corp. v. Johns-Manville Sales Corp., 626 F.2d 280 (3d Cir. 1980). Johns-Manville supplied products for a roof, and also supervised construction of the roof, for Jones & Laughlin. Eventually, the roof began to crack, allowing water to leak through. ^{138/} Ultimately, Jones & Laughlin repaired and replaced portions of the roof, and filed a complaint to recover its losses. Recovery was sought on several theories, some of which were founded in tort, including strict liability, and others which were founded in contract, including breach of express and implied warranties. Although the Supreme Court of Illinois had not yet addressed the question of whether economic losses are recoverable under tort theories of liability, the federal court concluded (in the diversity case) based on intermediate Illinois decisions and "a large majority of courts," that "economic losses are not recoverable under claims sounding in tort law." 626 F.2d at 287. "The extension of strict liability to cover economic losses in effect would make a manufacturer the guarantor that all of its products would continue to perform satisfactorily throughout their reasonably productive life." 626 F.2d at 289. Accordingly, the court held that Jones & Laughlin did not state valid causes of action

^{138/} Although asbestos was used in the roof, no allegations were made of a hazardous condition.

for either strict liability or negligence. The court also held that even if the contract were subject to the U.C.C., delivery of the roof occurred more than four years prior to the date on which the suit commenced, so that the U.C.C. contractual theories were barred by the statute of limitations.

Although today's decision may appear to be somewhat harsh, we are confident that it is the result required by Illinois law. The record establishes that the roof purchased by Jones & Laughlin was unsuitable for the weather conditions to which it was subject. The unsuitability or the failure of the roof to perform as anticipated by the parties does not give rise to a cause of action based on Illinois tort law. While it would appear that Jones & Laughlin did have a colorable breach of warranty claim under the UCC (assuming arguendo that the contract involved the sale of goods), the company did not file such a claim within the time limits specified by the Illinois statute of limitation. . . . Whatever the inequities may be, under the circumstances, Jones & Laughlin simply no longer has a legally actionable claim for relief. 626 F.2d at 293. 139/

There are two conflicting landmark opinions on the issue of whether recovery for economic losses may be had in tort. 140/ In Santor v. A & M Karagheusian, Inc., 44 N.J. 52, 207 A.2d 305

139/ In contrast, an intermediate Illinois state appellate court has since held that recovery of economic losses may be had under the tort theory of strict liability, in Moorman Mfg. Co. v. National Tank Co., 92 Ill.App.3d 136, 414 N.E.2d 1302 (1980). The court held the U.C.C. remedies did not preclude tort remedies because they were only designed for transactions involving parties in "roughly equal bargaining positions." In that case, the court reversed a trial court's dismissal of tort claims seeking to recover damages as a result of cracks appearing, in 1977, in storage tanks which had been delivered in 1966. The action was filed in 1978, twelve years after delivery.

140/ See Jones & Laughlin Steel Corp. v. Johns-Manville Sales Corp., *supra*, 626 F.2d at 285.

(1965), the Supreme Court of New Jersey held that the plaintiff could maintain a breach of implied warranty claim directly against the manufacturer, even though there was no privity between the parties. The case concerned unsightly lines which began to appear in carpeting several months after it was installed. In dicta, the court said that the plaintiff also had a cause of action for strict liability in tort.

[W]hen the manufacturer presents his goods to the public for sale he accompanies them with a representation that they are suitable and safe for the intended use. . . . The obligation of the manufacturer thus becomes what in justice it ought to be -- an enterprise liability, and one which should not depend upon the intricacies of the law of sales. The purpose of such liability is to ensure that the cost of injuries or damage, either to the goods sold or to other property, resulting from defective products, is borne by the makers of the products who put them in the channels of trade, rather than by the injured or damaged persons who ordinarily are powerless to protect themselves. ^{141/}

Several months after the decision in Santor, the California Supreme Court expressly, also in dicta, adopted a contrary position, in Seely v. White Motor Co., 63 Cal.2d 9, 403 P.2d 145 (1965). The plaintiff sued, claiming breach of express warranty and also strict tort liability, for damages for the repair of a defective truck, the purchase price, and lost profits resulting from the unsuitability of the truck for normal use. The California Supreme Court affirmed the judgment for the plaintiff on the theory of

^{141/} 207 A.2d at 311-12.

breach of express warranty, but in dicta, rejected the strict liability theory.

The distinction that the law has drawn between tort recovery for physical injuries and warranty recovery for economic loss is not arbitrary and does not rest on the "luck" of one plaintiff in having an accident causing physical injury. The distinction rests, rather, on an understanding of the nature of the responsibility a manufacturer must undertake distributing his products. He can appropriately be held liable for physical injuries caused by defects by requiring his goods to match a standard of safety defined in terms of conditions that create unreasonable risks of harm. He cannot be held for the level of performance of his products in the consumer's business unless he agrees that the product was designed to meet the consumer's demands. A consumer should not be charged at the will of the manufacturer with bearing the risk of physical injury when he buys a product on the market. He can, however, be fairly charged with the risk that the product will not match his economic expectations unless the manufacturer agrees that it will. Even in actions for negligence, a manufacturer's liability is limited to damages for physical injuries and there is no recovery for economic loss alone. 403 P.2d at 151-52.

A majority of courts deciding the issue have since followed' Seely. 142/ A minority of courts have followed Santor. 143/ Many articles have been written on the issue. 144/

142/ See Posttape Assoc. v. Eastman Kodak Co., 537 F.2d 751 (3d Cir. 1976) (Pennsylvania law, strict liability); Fredonia (footnote continued)

143/ See Gainous v. Cessna Aircraft Co., 491 F.Supp. 1345 (N.D. Ga. 1980) (Georgia law, strict liability); Mead Corp. v. (footnote continued)

144/ See Frumer, Products Liability, §16A(4)(k) at 38-180 to 38-187; Note, Economic Losses and Strict Products Liability; (footnote continued)

In addition, some courts have allowed recovery of economic loss in specific situations, while recognizing the Seely result

(footnote 142 continued)

Broadcasting Corp. v. RCA Corp., 481 F.2d 781 (5th Cir. 1973) (Texas law, strict liability); Bright v. Goodyear Tire & Rubber Co., 463 F.2d 240 (9th Cir. 1972) (California law, intentional or reckless tort); Southwest Forest Indus., Inc. v. Westinghouse Elec. Corp., 422 F.2d 1013 (9th Cir.), cert. denied, 400 U.S. 902, (1970) (Arizona law, strict liability); Midland Forge, Inc. v. Letts Indus., Inc., 395 F.Supp. 506 (N.D. Iowa 1975) (Iowa law, strict liability); Arizona v. Cook Paint & Varnish Co., 391 F.Supp. 962 (D. Ariz. 1975), aff'd, 541 F.2d 226 (9th Cir. 1976), cert. denied, 430 U.S. 915 (1977) (under law of Arizona, California, Hawaii, Texas, or Alaska economic loss not recoverable in strict liability action); Cooley v. Salopian Indus. Ltd., 383 F.Supp. 1114 (D. S.C. 1974) (South Carolina law, strict liability); Noel Transfer & Package Delivery Serv., Inc. v. General Motors Corp., 341 F.Supp. 966 (D. Minn. 1972); Clark v. International Harvester Co., 99 Idaho 326, 581 P.2d 784 (1978) (negligence); Morrow v. New Moon Homes, Inc., 548 P.2d 279 (Alaska 1976) (strict liability); Nobility Homes, Inc. v. Shivers, 557 S.W.2d 77 (Tex. 1977) (strict liability); Hawkins Constr. Co. v. Matthews Co., Inc., 190 Neb. 546, 209 N.W.2d 643 (1973) (strict liability); Price v. Gatlin, 241 Or. 315, 405 P.2d 502 (1965) (strict liability); Inglis v. American Motors Corp., 3 Ohio St.2d 132, 209 N.E.2d 583 (1965) (negligence); Alfred N. Koplin & Co. v. Chrysler Corp., 49 Ill.App.3d 194, 364 N.E.2d 100 (1977) (negligence); Long v. Jim Letts Oldsmobile, Inc., 135 Ga.App. 293, 217 S.E.2d 502 (1975) (negligence); Beauchamp v. Wilson, 21 Ariz.App. 14, 515 P.2d 41 (1973) (strict liability); Anthony v. Kelsey-Haves Co., 25 Cal.App.3d 442, 102 Cal.Rptr. 113 (1972) (strict liability and negligence); Rhodes Pharmacal Co. v. Continental Can Co., 72 Ill. App.2d 362, 219 N.E.2d 726 (1966); Sioux City Community School

(footnote continued)

(footnote 143 continued)

Allendale Mut. Ins. Co., 465 F.Supp. 355 (N.D. Ohio 1979) (Ohio law, strict liability); Berg v. General Motors Corp., 87 Wash.2d 584, 555 P.2d 818 (1976) (strict liability); Clev. of La Crosse v. Schubert, Schroeder & Assoc., Inc., 72 Wis.2d 38, 240 N.W.2d 124 (1976) (strict liability); Iacono v. Anderson Concrete Corp., 42 Ohio St.2d

(footnote continued)

(footnote 144 continued)

A Record of Judicial Confusion Between Contract and Tort, 54 NOTRE DAME LAWYER 118 (1978); Ribstein, Guidelines for Deciding Product Economic Loss Cases, 29 MERCER L. REV. 493 (1978); Note, Products Liability: The Manufacturer's Responsibility for Economic Loss -- Another Look, 8 MEMPHIS STATE UNIV. L. REV. 653 (1978); Amendes

(footnote continued)

as a general rule. In Cloud v. Kit Mfg. Co., 563 P.2d 248 (Alaska 1977), the Alaska Supreme Court allowed recovery for damage to a mobile home destroyed by fire, under strict liability in tort. The court held that sudden and calamitous property damage is recoverable under tort theory, whereas deterioration, internal breakage, and depreciation are economic losses for which recovery is not allowed in strict liability.

In Signal Oil & Gas Co. v. Universal Oil Products, 572 S.W.2d 320 (Tex. 1978), the Supreme Court of Texas held that economic loss is compensable in strict liability where there is collateral property damage in addition to damage to the product itself, and that in such cases, damage to the product itself may also be recovered as part of the property damage.

The primary concern of the courts following the Seely decision has been the fear that recognition of a strict liability

(footnote 142 continued)

District v. International Telephone and Telegraph Corp., 461 F.Supp. 662 (N.D. Iowa 1978); Russell v. Ford Motor Co., 281 Or. 587, 575 P.2d 1383 (1978); Plainwell Paper Co., Inc. v. Fram, Inc., 430 F.Supp. 1386 (W.D. Pa. 1977).

(footnote 143 continued)

88, 326 N.E.2d 267 (1975) (strict liability); Hiigel v. General Motors Corp., 190 Colo. 57, 544 P.2d 983 (1975) (strict liability); Cova v. Harley Davidson Motor Co., 26 Mich.App. 602, 182 N.W.2d 800 (1970).

(footnote 144 continued)

The Citadel Stands: The Recovery of Economic Loss in American Products Liability, 27 CASE WEST. RES. L. REV. 647 (1977); Note, Recovery of Direct Economic Loss: The Unanswered Questions of Ohio Products Liability Law, 27 CASE WEST. RES. L. REV. 683 (1977); Note, Products Liability: Expanding the Property Damage Exception in Pure Economic Loss Cases, 54 CHICAGO-KENT L. REV. 963 (1977); Apel, Strict Liability: Recovery of "Economic" Loss, 13 IDAHO L. REV. 29 (1976); Note, Manufacturer's Strict Tort Liability to Consumers for Economic Loss, 41 ST. JOHNS L. REV. 401 (1967).

theory of recovery in tort would conflict with the U.C.C. which has been adopted by statute in most states. "Inasmuch as the doctrine of strict liability does not permit a manufacturer to limit its liability through the use of a waiver or a limited warranty, importation of strict liability into the economic loss area would effectively supersede §2-316 of the U.C.C." 145/ "[T]he legislatures of nearly every state in the Union, have adopted the UCC which carefully and painstakingly sets forth the rights between parties in a sales transaction with regard to economic loss. This Court, in the common law evolution of the tort law of this state, must recognize the legislature's action in this area of commercial law and should accommodate when possible the evolution of tort law with the principles laid down in the U.C.C." 146/

It should be emphasized that some courts allow recovery for economic loss in negligence, even though they do not do so in strict liability, on the ground that negligence is grounded on fault, so that it falls within traditional tort rules and does not conflict with "the statutory system of nonfault recovery under the Uniform Commercial Code." 147/

145/ Jones & Laughlin Steel Corp. v. Johns-Manville Sales Corp., supra, 626 F.2d at 289.

146/ Clark v. International Harvester Co., 99 Idaho 326, 581 P.2d 784, 793 (1978).

147/ Western Seed Production Corp. v. Campbell, 250 Or. 262, 442 P.2d 215, 218 (1968). See also Berg v. General Motors Corp., 87 Wash.2d 584, 555 P.2d 818 (1976); Nobility Homes, Inc. v. Shivers, 557 S.W.2d 77 (Tex. 1977).

In situations not governed by the U.C.C., such as sales of realty (see U.C.C. §§2-105, 2-107), a number of courts have felt free to reach a contrary conclusion. In Fatitucci v. Drelich, 153 N.J.Super. 177, 379 A.2d 297 (1977), the court held that the buyer of a home with an inadequate sewer system had a cause of action for strict liability in tort. A "system which places raw effluent upon the surface of the yard of a dwelling house is 'in a defective condition unreasonably dangerous to the user or consumer.'" 379 A.2d at 299. Similar decisions include Tavares v. Horstman, 542 P.2d 1275 (Wyo. 1975) (negligent design and construction), and particularly significant, since they are decisions by California courts after Seely, U.S. Financial v. Sullivan, 37 Cal.App.3d 5, 112 Cal.Rptr. 18 (1974) (foundation failure); and Kriegler v. Eichler Homes, Inc., 269 Cal.App.2d 224 (1969) (failure of a radiant heating system).

Thus, if the U.C.C. is not applicable here, the Seely rationale of resolving conflict between U.C.C. statutory policies and tort common law policies in favor of the U.C.C., is not present. The U.C.C. may not be applicable for several reasons -- inability to easily sever the product from realty, 148/ absence of privity between school districts and manufacturer, 149/ or completion of the sales transaction prior to adoption of the U.C.C.

148/ See note 135, supra.

149/ See Southgate Community School District v. West Side Constr. Co., 399 Mich. 72, 247 N.W.2d 884 (1976).

B. The Economic Loss Caused By Asbestos School Hazards Should Be Characterized as a Tortious Injury

The majority rule set forth in Seely appears correct with respect to most situations involving recovery for economic loss not involving hazardous products. The principle at stake in such cases does appear to involve the difference between bargaining expectations, and what is actually obtained from the bargain, and is traditionally a matter of contract rather than tort law. However, where the defective product poses a hazard, the actual injury is not only a defeat of contractual expectations but also the creation of a tortious hazard. ^{150/} If the schools were replacing asbestos because it had become unsightly, or was falling from the ceilings, the injury would appear correctly characterized as a loss of bargained-for expectations. In fact, the sole reason for removal of the asbestos is that school authorities are concerned that inaction may result in death or injury to the students and employees for whom they are responsible. Furthermore, a classic public nuisance situation would seem to be presented. ^{151/} Students are required by law to attend school and schools are public facilities. Analogies to unsafe dams, or obstructions to roads or navigable waterways, would not appear misplaced.

^{150/} Generally, one may plead both tort and contract claims arising from the same transaction, even though different limitation statutes apply to the separate claims. E.g., Triangle Underwriters, Inc. v. Honeywell, Inc., 604 F.2d 737, 743-44 (2d Cir. 1979).

^{151/} A public nuisance includes conduct which "involves a significant interference with the public health, the public safety, the public peace, the public comfort or the public convenience." Restatement (Second) of Torts, §821(b) (1979).

In TWA v. Curtiss Wright Corp., 148 N.Y.S.2d 284 (Sup. Ct. 1955), aff'd without opinion, 153 N.Y.S.2d 546 (App. Div., 1st Dept. 1956), preceding both Santor and Seely, a New York trial court held that though negligence -- defective engines on a jet airplane -- may endanger another, there is no actionable wrong if the danger is averted. The court squarely held that the purchaser's remedy is for breach of warranty unless and until an accident occurs. It can be argued that the TWA decision is wrong in this context. It can be contended that the decision is undesirable from a public policy standpoint, because it may discourage responsible parties from seeking to alleviate dangerous conditions prior to the occurrence of deaths or injuries. 152/

In another case, preceding Santor and Seely, the Fifth Circuit Court of Appeals, applying Texas law without citing the TWA decision, came to a contrary conclusion. In Gladiola Biscuit Co. v. Southern Ice Co., 267 F.2d 138 (5th Cir. 1959), the court allowed a biscuit manufacturer to recover against an ice manufacturer its costs of destroying biscuits containing glass mixed in with the ice furnished by the defendant, on a strict liability theory. "Otherwise, while an injured biscuit eater might have his remedy . . . the physical harm which Texas seeks to prevent would have irretrievably occurred." Id. at 140.

The Gladiola result seems more consistent with the policies underlying strict liability, because it encourages the abatement of hazardous conditions.

152/ Note, Economic Loss in Products Liability Jurisprudence, 66 COLUM. L. REV. 917, 951 (1966).

Section 402A of the Restatement (Second) of Torts (1965) states that "[o]ne who sells any product in a defective condition unreasonably dangerous to the user or consumer or to his property is subject to liability for physical harm thereby caused to the ultimate user or consumer, or to his property." Allegedly, if the asbestos were left in the schools, the result will cause and may already be causing, physical harm to users of the schools. That should clearly create a cause of action for strict liability in tort. If, however, the school district at considerable expense abates the hazard by removing the asbestos, it can be contended that the "wrong" has not been suddenly transformed from a tortious injury to a contractual injury. While there may not have been a tortious physical personal injury, there remains the tortious creation of a hazardous condition necessitating remedial measures to avoid harm, so that the expense of abatement may fairly be argued to constitute a tortious injury.

Several commentators have contended that there should be an exception to the majority rule denying recovery for economic losses in strict liability, where the loss results from the hazardous nature of the defective product. The manufacturer of a dangerous product, even though injury has not yet occurred, breaches the same duty that underlies liability in personal injury cases, which in both situations is based on the policy of encouraging the manufacture of safe products. 153/

153/ Apel, Strict Liability: Recovery of Economic Loss, 13 IDAHO L. REV. 29, 49 (1976); Ribstein, Guidelines for Deciding Product Economic Loss Cases, 29 MERCER L. REV. 493, 500-01 (1978).

The courts of England have allowed recovery in tort for economic losses resulting from hazardous products. Lord Denning, M.R., stated in Dutton v. Bognor Regis United Building Co.: 154/

Counsel for the council submitted that the liability of the council would, in any case, be limited to those who suffered bodily harm; and did not extend to those who only suffered economic loss. He suggested, therefore, that although the council might be liable if the ceiling fell down and injured a visitor, they would not be liable simply because the house was diminished in value. . . .

I cannot accept this submission. The damage done here was not solely economic loss. It was physical damage to the house. If counsel's submission were right, it would mean that, if the inspector negligently passes the house as properly built and it collapses and injures a person, the council are liable; but, if the owner discovers the defect in time to repair it -- and he does repair it -- the council are not liable. That is an impossible distinction. They are liable in either case. I would say the same about the manufacturer of an article. If he makes it negligently, with a latent defect (so that it breaks to pieces and injures someone), he is undoubtedly liable. Suppose that the defect is discovered in time to prevent the injury. Surely he is liable for the cost of repair.

In Rivtow Marine Ltd. v. Washington Iron Works, 155/ the Supreme Court of Canada held that economic loss could be recovered in negligence, if it results from "failure to warn" or other tort "independent" from the contract of sale. In other words, in Canada

154/ [1972] 1 Q.B. 373, [1972] 1 All E.R. 462, 474 (C.A.). Tort recovery for economic losses was subsequently approved by the House of Lords. See Anns v. London Borough of Merton, [1978] AC728, [1977] 2 All E.R. 492, 505 (Lord Wilberforce), 514 (Lord Salmon).

155/ 40 D.L.R. (3d) 530 (1973).

recovery in tort may be had if there is a tort in addition to the manufacture of a defective product. And in this country, though additional elements not required in a products liability action must be proven, there is no obstacle to recovering economic loss in an action for fraudulent misrepresentation (which can be based on nondisclosure of a material fact as well as affirmative misrepresentation). 156/

Most of the American economic loss cases already cited have involved non-hazardous situations and are therefore distinguishable from the situation at hand. Only a few cases in addition to the TWA decision have denied recovery on tort theories when the defective product resulted in a hazardous condition. However, these cases do not discuss whether the hazardous nature of the defective product, or the presence of an "independent" tort, should result in a different outcome than is true of other "economic loss" cases.

An example is the decision in Sioux City School District v. International Telephone & Telegraph Co., 461 F.Supp. 662 (N.D. Iowa 1978). In this diversity case governed by Iowa law, a school district sued to recover its costs of removing and replacing heating units which discharged carbon monoxide, allegedly endangering students and teachers. The court dismissed the cause of action for strict liability. Other causes of action, based on express and implied warranties and negligent design, were not challenged. The court said that there were four distinct categories of harm with strict liability potential: (1) physical

156/ See Section II C, infra.

injury to persons; (2) physical damage to property other than the product itself; (3) physical damage to the product itself; and (4) economic losses which involve no physical harm but are occasioned by the unfitness of the product. The court held that items (3) and (4) were not recoverable in strict liability, particularly since the parties in the case were not unequal in terms of their bargaining position.

In Arizona v. Cook Paint & Varnish Co., 391 F.Supp. 962 (D. Ariz. 1975), aff'd, 541 F.2d 226 (9th Cir. 1976), cert. denied, 430 U.S. 915 (1977), the court dismissed claims by the state and its agencies to recover the costs of removing rigid polyurethane foam insulation products from buildings, based on strict liability and misrepresentation of the flammability of the products. The court noted that the five states whose laws were potentially relevant -- Arizona, California, Hawaii, Texas, and Alaska -- did not allow tort recovery for economic losses. The court also held that the necessity to physically tear the product from the buildings to make them reasonably firesafe, could not properly be characterized as physical harm to the property. (However, in view of the dearth of authority on this point, school districts may contend that the necessity of physically tearing away asbestos from ceilings to abate a hazardous situation does reflect physical harm to property squarely within the language of the Restatement (Second) of Torts Section 402A (1965)). 157/

157/ In addition to the cases just cited, research discloses that several additional decisions have denied recovery for
(footnote continued)

In any event, "[c]ontract actions are created to protect the interest in having promises performed; . . . [t]ort actions are created to protect the interest in freedom from various kinds of harm. The duties of conduct which give rise to them are imposed by law, and are based primarily upon social policy, and not necessarily upon the will or intention of the parties . . ."

Tameny v. Atlantic Richfield Co., 27 Cal.3d 167, 610 P.2d 1330, 1335 (1980), quoting from Prosser, Law of Torts at 613 (4th ed. 1971). One may contract to purchase an inferior product, but not to expose others to an unsafe one. Any agreement to commit a tort against a third party is illegal and void. 158/ In short, while contractual principles govern the sale of non-hazardous products, it can be argued that tort principles should be applicable to the sale of hazardous products. On this issue, the decisions of the highest courts of England and Canada, and the Fifth Circuit's Gladiola decision, allowing tort recovery for economic loss, may be preferable to the outcome in the TWA case denying recovery. 159-60/

(footnote continued)
 "economic loss" in hazardous product situations. These cases also do not discuss whether the presence of a hazardous condition should result in a different outcome. See Bright v. Goodyear Tire & Rubber Co., 463 F.2d 240 (9th Cir. 1972) (California law) (dangerously defective tires); Hawkins Constr. Co. v. Matthews Co., Inc., 190 Neb. 546, 209 N.W.2d 643 (1973) (defective scaffolding).

158/ Restatement of Contracts, §571 (1932).

159-60/ See also, Caltex Oil (Australia) Pty. Ltd. v. The Dredge "Willenstad", 136 C.L.R. 529, 556 (Austl. 1976) (High Court of Australia held economic loss recoverable if the manufacturer knows the particular consumer likely to suffer economic loss); Union Oil Co. v. Oppen, 501 F.2d 558 (9th Cir. 1974) (economic loss recoverable by fishermen following oil spill).

The general theory behind failure to warn cases is that one may not knowingly sell a hazardous material without warning of the hazard. The warning allows the user to make an informed choice as to whether the utility of the product in a particular situation outweighs its dangerous propensities. A sound argument can be made, based on both the public policy behind strict liability and several weighty decisions from common law jurisdictions, that liability should follow the absence of warning in the case of "economic loss" as well as in the case of physical injury.

Economic Loss Conclusion

Though most American cases are to the effect that economic loss is not recoverable in a tort action, a persuasive argument can be made that recovery for the abatement of a nuisance caused by a hazardous product, predicated on failure to warn and failure to test, can be brought on tort theories. As the next section demonstrates, if a tort can be established, the necessary duty and breach thereof exist to constitute the elements necessary to sustain a claim for restitution.

II. LIKELY EQUITABLE AND COMMON LAW THEORIES OF RECOVERY

A. Equitable Restitution Theory of Recovery

1. Restitution Principles

Restitution appears to be the most desirable remedy from the prospective plaintiff's standpoint, because it most closely fits the problem and also may offer the most appropriate and favorable treatment in terms of statutes of limitation. The school districts could allege that the manufacturers who supplied friable asbestos for use in classrooms without warning that asbestos fibers are dangerous, and without testing to determine the danger in an environmental as opposed to an occupational setting, have a duty to abate the resultant hazard and must compensate the party abating the hazard, if the manufacturer refuses to do so. 161/

The Restatement of Restitution sets forth the elements of a restitution claim under the public emergency assistance doctrine:

Section 115. Performance of Another's Duty to the Public.

A person who has performed the duty of another by supplying things or services, although acting without the other's knowledge or consent, is entitled to restitution from the other if (a) he acted unofficiously and with intent to charge therefor, and (b) the things or services supplied were immediately necessary to satisfy the requirements of public decency, health, or safety.

161/ Only new material is discussed in these sections concerning potential causes of action. The concepts of duty and injury were discussed in the preceeding two sections of this Report.

The school asbestos hazards appear to fit squarely within the language of the Restatement. 162/

Comment a to the Restatement provides that the person having the duty must first be requested to perform it unless considerations of urgency render a prior request infeasible. Any school district contemplating use of a restitution theory should pay particular attention to this requirement.

Comment b gives examples of situations where Section 115 is applicable, including "where one removes an obstruction from or makes repairs upon a public road which has become imminently dangerous to members of the traveling public, if the town or person whose duty it is to care for the road fails to do so." This situation is somewhat analogous to a situation in which schools have (allegedly) become imminently dangerous to members of the student public, if the manufacturers responsible for the condition fail to make the necessary repairs.

A prime example of the emergency assistance doctrine articulated in Section 115 of the Restatement of Restitution is the Supreme Court's decision in Wyandotte Transp. Co. v. United States, 389 U.S. 191 (1967). In Wyandotte, a barge loaded with a dangerous substance (liquid chlorine) had been negligently sunk in the Mississippi River. The government was concerned that if any chlorine

162/ Board of Comm'rs of Decatur County v. Greensburg Times, 215 Ind. 471, 20 N.E.2d 647 (1939) (rule not applicable, however, to case at bar). "The Restatements promulgated by the American Law Institute are entitled to great weight and we accept the rule [Section 115, Restatement of the Law of Restitution] quoted above as an authoritative exposition of the law on the subject considered."

escaped, "it would be in the form of lethal chlorine gas, which might cause a large number of casualties. The Government demanded that Wyandotte remove the barge. Wyandotte refused to do this." ^{163/}

The United States then moved to avert a catastrophe by locating and raising the barge and its deadly cargo. . . . These operations, costing the United States some \$3,081,000, proved successful.

The United States demanded that the owners and operators of the barge reimburse the Government for its expenses. This demand was rejected. ^{164/}

The Court said:

It is but a small step from declaratory relief to a civil action for the Government's expenses incurred in removing a negligently sunk vessel. [Citation omitted.] Having properly chosen to remove such a vessel, the United States should not lose the right to place the responsibility for removal upon those who negligently sank the vessel. See Restatement of Restitution Section 115; United States v. Moran Towing & Transportation Co., 374 F.2d 656, 667 (C.A. 4th Cir. 1967). No issue regarding the propriety of the Government's removal of Wyandotte's barge is now raised. Indeed, the facts surrounding that sinking constitute a classic case in which rapid removal by someone was essential.

Wyandotte was unwilling to effectuate removal itself. It would be surprising if Congress intended that, in such a situation, the Government's commendable performance of Wyandotte's duty must be at government expense. Indeed, in any case in which the Act provides a right of removal in the United States, the exercise of that right should not relieve negligent parties of the responsibility for removal. Otherwise, the Government would be subject to a financial penalty for

^{163/} 389 U.S. at 194-95.

^{164/} 389 U.S. at 195.

the correct performance of its duty to prevent impediments in inland waterways. 165/

In Brandon Township v. Jerome Builders, Inc., 80 Mich.App. 180, 263 N.W.2d 326 (1978), a township brought an action to recover the costs of repairs it made to a dam owned by the defendants. The township had determined that the dam was in need of repair, and that because it could rupture and flood in the event of heavy rainfall, there was an imminent threat to the safety of the township residents. The court reversed a grant of summary judgment in favor of the defendants, stating that "[a] condition which is so threatening as to constitute an impending danger to the public welfare is a nuisance." 263 N.W.2d at 328. "Plaintiff's allegations fall squarely within the situation envisioned by the Restatement [of Restitution], Section 115]. Defendants were enriched by the repairs made to its dam, and the enrichment was unjust because it was defendants' duty to repair the dam." 263 N.W.2d at 328.

In United States v. Consolidated Edison Co. of New York, Inc., 580 F.2d 1122 (2d Cir. 1978), the court upheld a judgment awarding damages to the United States, reimbursing it for costs which the Atomic Energy Commission incurred when it made available 200 megawatts of electric power to Consolidated Edison Co. during a power shortage. The court held that Consolidated Edison was liable under the public emergency assistance doctrine reflected in Section 115.

165/ Id. at 204-05.

Con Edison's claim that it has no absolute duty to supply electricity to New York area customers misconceives both the nature of the duty which must be implicated to fall within the purview of Section 115 and the nature of the duty which the AEC performed in this case. Con Edison asserts in this regard that it is liable for damages to its customers only from intentional wrongful cutoffs or accidental cutoffs when it has acted with gross negligence. However, Section 115 of the Restatement certainly does not require either by its terms or under the case law interpreting it, that a duty must be absolute to fall within its parameters. Duty is a flexible concept. Its existence depends on calibrating legal obligations to factual contexts. One may have only a duty to avoid gross negligence, but that is a duty nonetheless and one potentially cognizable by the emergency assistance doctrine. 580 F.2d at 1127-28. 166/

The court also said:

Con Edison's attempted limitation of the emergency assistance doctrine to burial of the dead, repair of public roads, and quarantine of the insane and contagiously ill takes too myopic a view. To be sure, these are examples appearing in comment b to §115 of the Restatement of Restitution. But those examples are explanatory, not delimiting. Con Edison's situation was certainly more grave and potentially dangerous to the public welfare than when a fallen tree blocks a road or when "a dead whale [is] stranded on the shore close to a town." Restatement of Restitution, Section 115, comment c at 483 (1937). 167/

166/ The court cited another decision, Peninsular & Oriental Steam Navigation Co. v. Overseas Oil Carriers, Inc., 553 F.2d 830 (2d Cir.), cert. denied, 434 U.S. 859 (1977), in which one ship went out of its way and increased its fuel consumption by increasing speed, to bring a sailor suffering a heart attack on another ship, to a hospital. The rescuing ship was awarded its increased fuel costs as damages under Restatement Section 114 -- the private emergency assistance section.

167/ 580 F.2d at 1130, n.14.

Restitution appears as appropriate here as in the cases just discussed, substituting failure to warn of the hazards of asbestos as the duty creating element, for the negligent sinking in Wyandotte, the hazardous dam in Brandon Township, and the power furnished in the Consolidated Edison case.

In particular, "[t]he quasi-contract action [for restitution] is particularly applicable to those torts in which money or property is obtained by fraudulent misrepresentation." 168/ The failure to warn of the hazards of asbestos products in transactions undertaken for profit and likely deterred by knowledge of the hazards may be argued to constitute fraudulent misrepresentation. 169/

2. Indemnity Principles Also Suggest That Restitution is Appropriate

Sections 93 and 95 of the Restatement of Restitution provide additional reasoning supportive of a restitution remedy, because they demonstrate that the ultimate responsibility for the hazard created, if any, rests with the manufacturers -- not the school districts. Section 95 provides:

Person Responsible For A Dangerous Condition.

Where a person has become liable with another for harm caused to a third person

168/ Prosser, Law of Torts at 630 (4th ed. 1971).

169/ See Section 11C, infra, entitled Misrepresentation. In addition to the public emergency assistance doctrine, which is the basis for the restitution theory reflected in Section 115 of the Restatement, restitution is also available to recover unjust enrichment resulting from misrepresentation. See Prosser, Law of Torts at 688-89, 732-33 (4th ed. 1971).

because of his negligent failure to make safe a dangerous condition of land or chattels, which was created by the misconduct of the other or which, as between the two, it was the other's duty to make safe, he is entitled to restitution from the other for expenditures properly made in the discharge of such liability, unless after discovery of the danger, he acquiesced in the continuation of the condition.

Comment a provides:

The rule stated in this Section applies to situations where a carrier is responsible for the condition of its right of way or a municipality is responsible for the condition of a public highway and a third person by negligence creates a condition dangerous to travelers thereon, or, having undertaken to make safe a dangerous condition, fails to do so.

In the words of a Missouri decision:

[W]hen the supplier or manufacturer of an article is actively or primarily negligent by supplying a product that is unreasonably dangerous for the use for which it was made or supplied, and the person to whom the item is supplied justifiably relied upon the supplier's care but is nevertheless passively or secondarily negligent in causing injury to a third person because of his failure to discover, correct or remedy the danger, the two negligent parties, though both may be liable to the third person, are not in pari delicto and the one that was passively negligent may maintain an action for indemnity against the one that was actively negligent. 170/

Section 93 of the Restatement provides:

Indemnity from Negligent Seller or Supplier.

(1) Where a person has supplied to another a chattel which because of the supplier's negligence or other fault is dangerously

170/ Lewis v. Amchem Products, Inc., 510 S.W.2d 46, 48 (Mo.App. 1974).

defective for the use for which it is supplied and both have become liable in tort to a third person injured by such use, the supplier is under a duty to indemnify the other for expenditures properly made in discharge of the claim of the third person, if the other used or disposed of the chattel in reliance upon the supplier's care and if, as between the two, such reliance was justifiable.

(2) The rule stated in Subsection (1) applies where a person has negligently made repairs or improvements upon the land or chattels of another whereby both become liable in tort to a third person.

The application of the rules set forth is illustrated by the decision in Fritts v. Safeway Stores, Inc., 408 F.Supp. 828 (D. Or. 1976). In that case, a customer brought an action against a grocery store for injuries she sustained when she was struck by a negligently installed automatic door. The court held that the store was entitled to indemnity from the installer. Safeway was entitled to indemnity because its liability was only passive as opposed to active, or in the alternative, was only vicarious. 171/

171/ See also Kelly v. Diesel Constr. Div. of Carl A. Morse, Inc., 35 N.Y.2d 1, 315 N.E.2d 751 (1974) (general contractor liable under labor law to injured employee, entitled to full indemnity from company which provided a defective hoist); St. Louis-San Francisco Ry. v. United States, 187 F.2d 925 (5th Cir. 1951) (railway company entitled to indemnity against United States which had negligently permitted bombs to become dangerous and cause injury to plaintiff's employees); Woods v. Juvenile Shoe Corp. of America, 361 S.W.2d 694 (Mo. 1962) (shoe store entitled to indemnity for liability for personal injuries suffered by customer, against negligent manufacturer of defective shoe); Sears, Roebuck & Co. v. Philip, 112 N.H. 282, 294 A.2d 211 (1972) (store liable for personal injuries in slip and fall case, entitled to indemnity against independent contractor who had contracted to clean and wax floors of store unless store owner could be held accountable (footnote continued)

The point is that a school district could seek indemnity from the manufacturer of asbestos, if a nuisance action to compel abatement were brought against it by parents and students, or if an action were brought for death or injury caused by asbestos exposure. The principles of indemnity demonstrate that the ultimate responsibility for the "wrong," and therefore the duty to abate, lies with the manufacturer which failed to warn rather than the innocent school districts. This serves to support the contention that the manufacturer does have a "duty" to remove the asbestos (if proven hazardous), within the within the meaning of Restatement of Restitution Section 115.

Finally, statutes of limitation may not bar an indemnity claim brought against a manufacturer by a school district which has been sued by parents or students for injunctive relief or personal injury. 172/

3. Limitation Principles Applicable to Restitution Actions

The Restatement also provides with respect to statutes of limitation:

(footnote continued)
for more than "a fault that is imputed or constructive only."). But see Tolbert v. Gerber Industries, Inc., 255 N.W.2d 362 (Minn. 1977) (adopting comparative negligence and apportionment of liability rule, to the effect that a negligent installer of defective equipment is not entitled to one hundred percent indemnity from negligent manufacturer).

172/ See Walker Mfg. Co. v. Dickerson, Inc., 619 F.2d 305 (4th Cir. 1980) (holding U.C.C. limitation statute does not shield manufacturers of defective products from indemnity claims although made by their purchasers more than four years after the date of sale).

Section 148. Laches and Statutes of Limitation.

(1) In proceedings in equity, a person otherwise entitled to restitution is barred from recovery if he has failed to bring or, having brought has failed to prosecute, a suit for so long a time and under such circumstances that it would be inequitable to permit him now to prosecute the suit.

(2) A cause of action for restitution may be barred by lapse of time because of the provisions of a statute of limitations.

Comment a on Subsection (1) provides that delay sufficient to bar a suit includes consideration of whether "a hardship would result to the respondent or to third persons because of a change of circumstances or because there would be a substantial chance of reaching an erroneous decision as to the facts."

Comment b provides that "[l]ength of time in itself, aside from its likelihood of producing hardship, is not a bar. In the absence of evidence of other circumstances the complainant normally is barred if the period of the statute of limitations applicable to actions at law in analogous situations would have run, beginning at the time when the facts were known or the duress ended." Excuses for delay include the fact that the complainant "was ignorant and did not understand his rights."

Comment c provides:

Normally restitution will be denied only where, because of an unreasonable delay, the respondent or third persons would suffer harm if restitution were granted; even if full restitution would work a hardship, partial restitution will often be granted conditioned upon the complainant making compensation for the harm suffered by the delay, if such compensation will prevent the hardship to the respondent. Unlike the situation where a change of circumstances may operate

as a defense before the other party discovers the facts (see §142), the granting or denial of restitution because of hardship is not necessarily dependent upon the degree of fault of the parties in the original transaction; restitution is denied because of laches only because the complainant, with full opportunity to pursue a remedy, delays without adequate reason until, if restitution were granted, the other party or some third person might suffer a loss which would not have been occasioned had action been brought with a fair degree of promptness. The hardship upon the other party may be because he would lose something, as where there has been a material change of values in the subject matter, or because in view of his changed financial condition restitution would be very difficult, or for other similar reasons.

Comment d provides:

If the lapse of time has caused doubt as to the ascertainment of the facts, as where witnesses have died or papers have been lost, or where the time elapsed is so great that witnesses may have forgotten the facts, the chance that the respondent will be dealt with unjustly may be sufficiently great to prevent the granting of restitution. It is because of this, perhaps, that courts have frequently found it fitting to bar equitable actions at the period when the statute of limitations would bar actions at law unless the complainant can show a satisfactory reason for not having previously brought his action.

It would appear that an action for restitution would not be barred by laches, because the length of time that has elapsed since the asbestos was installed in the schools has not in itself harmed the likely defendant manufacturers. Also, any "delay" may be attributed to the asbestos manufacturers who sold their products without any warnings and who continue to contend that friable asbestos is not dangerous.

As to the applicability of statutes of limitation, comment f on Subsection (2) provides:

The statutes commonly known as statutes of limitations ordinarily are applicable to actions at law. They also apply to equitable proceedings in which there is a concurrent legal remedy.

* * *

[T]he statutory period for a quasi-contractual cause of action is the same as for a cause of action based upon an oral contract.

The logical result is to return to the point of determining whether the underlying wrong complained of can be characterized as a tort -- it was so concluded in the preceding section. If the creation of the alleged asbestos hazard is a tort, the potential arises for the most favorable result possible from the standpoint of the school districts with respect to statutes of limitation. It may be persuasively argued that the actual wrong is the creation of a continuing nuisance, so that the statute of limitation should not actually commence to run until the abatement of the hazard.

In United States v. Boyd, 520 F.2d 642 (6th Cir. 1975), cert. denied, 423 U.S. 1050 (1976), a court had to determine when the applicable statute of limitation began to run governing an action in which the United States sought to recover its expenses incurred in removing a sunken barge from a navigable portion of the Cumberland River. The United States first became aware of the barge's sunken condition in early 1968. After negotiations, the government removed the barge in May of 1971, and filed its suit for reimbursement of expenses in December of 1972. The court held that Section 115 of the Restatement was applicable for several reasons,

including the fact that the vessel represented a hazard to other vessels employed in navigation.

The right to restitution did not accrue in this case until the actual removal of the sunken barge, which occurred on May 21, 1971, and until the actual payment to the contractor, which occurred on June 21, 1971. Since the action was brought in December, 1972 against Boyd and in 1973 against Caldwell, it would not be barred by either the three year or the six year statute of limitations.

The appellants contend that if the Government is allowed to pursue the claim for recovery based on the time when it incurs its actual expense of removal, it could delay removal for many years and, thus, recover on a stale claim. The answer to this contention is that by doing so the Government would run the risk of exposing itself to liability to third parties under the authority of Buffalo Bayou Transportation Co. v. United States, 375 F.2d 675 (5th Cir. 1967), and would also run the risk that the person responsible for the obstruction would be unavailable to respond in damages. Furthermore, if the Government should delay too long in removing the sunken vessel and then seek restitution, the owners of the sunken vessel could validly assert the defense of laches, inasmuch as laches would then be an equitable defense to an equitable cause of action, namely restitution. 520 F.2d at 645. (Emphasis added.)

In both the Brandon Township and the Consolidated Edison cases discussed previously, the courts characterized the emergency assistance doctrine as a form of quasi-contractual relief. 173/ This is reflective of the notion that the law creates an implied contract to perform one's duty, so that the cause of action does

173/ See United States v. Consolidated Edison Co., *supra*, 580 F.2d at 1127; Brandon Township v. Jerome Builders, Inc., *supra*, 263 N.W.2d at 328.

not accrue (and the limitation period does not commence to run) until the complainant performs the duty of the party responsible. 174/

The next most favorable outcome is that either the general catch-all, or tort damage to property statute of limitation, would be held applicable and to commence on the date that the district determined, or should have determined, that it was faced with a hazardous condition in the schools. If, however, the underlying wrong is characterized as contractual, the contractual statute of limitation could be held to have commenced running on the date of delivery, barring actions in many jurisdictions. Plainly, the economic loss issue previously discussed may be pivotal in actions seeking restitution as well as in actions in strict liability and negligence, which are discussed in the next two sections of this Report.

Restitution Conclusion

A school district determined to seek restitution should first ascertain the responsible asbestos manufacturers. Demand should then be made upon the responsible parties for abatement, that is, removal, containment or encapsulation of the asbestos.

174/ There are some jurisdictions in which an action for equitable restitution has been held governed by laches rather than a statute of limitation. See Watwood v. Yambrusic, 389 A.2d 1362 (D.C. 1978) (action which would have been allowed under 15-year statute of limitation held barred by laches). But see Jonklaas v. Silverman, 117 R.I. 691, 370 A.2d 1277, (1977) (even though equitable principles are involved in an action for restitution, "limitations statutes should apply equally to similar facts regardless of whether legal or equitable jurisdiction is involved, so action timely under six-year statute of limitations, is not barred by laches.").

If the demand is refused, it will be necessary to establish in court either as a matter of law or by trial of a factual issue, that the asbestos is hazardous. The hazardous nature of the product, coupled with failure to warn of the hazard and failure to abate the hazard, should constitute an omission to perform a "duty" within the meaning of Section 115, entitling the party performing the duty to restitution.

The United States 175/ (or school districts) could recover sums expended for removing or containing hazardous asbestos by actions seeking restitution.

175/ The conclusions as to the United States depend upon the appropriation of funds by Congress to carry out the Act, which, as already stated in the Summary, appears unlikely.

B. Products Liability Theories of Recovery

Products liability is the area of case law concerning the liability of sellers of products to third persons with whom they are not in privity of contract. ^{176/} Products liability cases ordinarily include causes of action for strict liability, negligence, or breach of warranty, or for all three theories of recovery. These theories of recovery are discussed in the following sections. The first two sections of the Legal Issues portion of this Report addressing duty and injury, should be kept in mind while reading these sections.

1. Strict Liability

Strict liability is a more recent development than either liability for negligence or breach of warranty. It is the preferred products liability cause of action because it is unnecessary to prove negligence against the manufacturer, and contractual privity between the manufacturer and the injured product user is not required. The Restatement (Second) of Torts sets forth the elements of a strict liability claim.

Section 402A. Special Liability of Seller of Product for Physical Harm to User or Consumer.

(1) One who sells any product in a defective condition unreasonably dangerous to the user or consumer or to his property is subject to liability for physical harm thereby caused to the ultimate user or consumer, or to his property, if (a) the seller is engaged in the business of selling such a product, and (b) it is expected to and does reach the user or consumer without substantial change in the condition in which it is sold.

^{176/} Prosser, Law of Torts at 641 (4th ed. 1971).

(2) The rule stated in Subsection (1) applies although (a) the seller has exercised all possible care in the preparation and sale of his product, and (b) the user or consumer has not bought the product from or entered into any contractual relation with the seller.

Comment d provides that the theory of strict liability is no longer limited to food or other products for human consumption.

It extends to any product sold in the condition, or substantially the same condition, in which it is expected to reach the ultimate user or consumer. Thus the rule stated applies to an automobile, a tire, an airplane, a grinding wheel, a water heater, a gas stove, a power tool, a riveting machine, a chair, and an insecticide. It applies also to products which, if they are defective, may be expected to and do cause only "physical harm" in the form of damage to the user's land or chattels, as in the case of animal food or a herbicide.

Comment e provides that strict liability applies to the sale of natural products which do not require processing, which indicates that asbestos mining companies may be included among potential defendants.

Normally the rule stated in this Section will be applied to articles which already have undergone some processing before sale, since there is today little in the way of consumer products which will reach the consumer without such processing. The rule is not, however, so limited, and the supplier of poisonous mushrooms which are neither cooked, canned, packaged, nor otherwise treated is subject to the liability here stated.

Comment f sets forth the duty upon which strict liability is based.

The basis for the rule is the ancient one of the special responsibility for the safety of the public undertaken by one who enters into the business of supplying human beings with products which may endanger the safety of

their persons and property, and the forced reliance upon that undertaking on the part of those who purchase such goods.

Comment i provides that the concept of a defective product is limited by considerations of reasonableness.

The rule stated in this Section applies only where the defective condition of the product makes it unreasonably dangerous to the user or consumer. . . . The article sold must be dangerous to an extent beyond that which would be contemplated by the ordinary consumer who purchased it, with the ordinary knowledge common to the community as to its characteristics.

Comment j provides that the seller may be required to give warnings as to a product's use in order to prevent it from being unreasonably dangerous. This requirement has been a key element of asbestos liability cases.

Comment k provides that products which are both necessarily and unavoidably unsafe, such as the Pasteur treatment of rabies which often leads to damaging consequences, but prevents a disease which invariably leads to a dreadful death, are not unreasonably dangerous. Unlike the Pasteur treatment, asbestos is not necessarily and unavoidably unsafe -- it can be contained to prevent the release of fibers. 177/ Also, there are alternative ceiling insulation products. 178/

Strict liability is a tort liability "and does not require any contractual relation, or privity of contract, between the

177/ See Sections V and VI in the General Background portion of this Report, supra.

178/ Id.

plaintiff and the defendant." Comment l. This means that a school district can sue a manufacturer even when the manufacturer did not sell the product directly to the school district.

Strict liability is not governed by the provisions of the Uniform Commercial Code as to warranties and is not affected by limitations on the scope, content, and applicability of warranties. Comment m. This means that a strict liability action is not subject to as many obstacles as a breach of warranty action.

Assumption of the risk, but not contributory negligence, is a defense to a strict liability cause of action. Comment n. This means that contributory negligence, which is a major potential defense to a negligence claim, may not be used to eliminate or reduce recovery in a strict liability claim.

Finally, there may be situations in which further processing or substantial change by intermediate parties will lead to shifting of responsibility.

The question is essentially one of whether the responsibility for discovery and prevention of the dangerous defect is shifted to the intermediate party who is to make the changes. No doubt there will be some situations, and some defects, as to which the responsibility will be shifted, and others in which it will not.
Comment p.

This rather imprecise rule will be applicable in determining whether liability ultimately lies with the primary asbestos miners and manufacturers or instead with the manufacturers of friable asbestos products. 179/

179/ The cases the Department is aware of have been filed by school districts against the manufacturers of the friable
(footnote continued)

It appears that a school district can allege the elements required for a strict liability claim, with the proviso that, as already discussed, a majority of American courts which have decided the issue -- without persuasively treating the hazardous product or "independent" tort situation -- have held that "economic loss" unaccompanied by personal injury or property damage is not recoverable under a strict liability theory. Since the decision in Borel v. Fibreboard Paper Products Corp., 493 F.2d 1076 (5th Cir. 1973), cert. denied, 419 U.S. 869 (1974), the first requirement -- that asbestos products unaccompanied by adequate warnings are viewed as defective products -- has been established either by jury verdict or, more recently, as a matter of law. 180/

In Borel v. Fibreboard Paper Products Corp., 493 F.2d 1076 (5th Cir. 1973), cert. denied, 419 U.S. 869 (1974), an asbestos insulation worker developed asbestosis, and ultimately died of mesothelioma, after having worked in the asbestos industry from 1936 until 1969. The Fifth Circuit affirmed a district court judgment in a diversity case applying Texas law, on a jury verdict in favor of Borel on the basis of strict liability.

The plaintiff alleged that the asbestos was an unreasonably dangerous product because of the failure to give adequate warning

(Footnote continued)

asbestos products as opposed to the primary asbestos miners and manufacturers. See Sections VI A and VI B of the General Background section of this Report, supra.

180/ See Hardy v. Johns-Manville Sales Corp., 509 F.Supp. 1353, 1354 (E.D. Tex. 1981); Mooney v. Fibreboard Corp., 485 F.Supp. 242 (E.D. Tex. 1980).

of the known or knowable dangers involved. 181/ In affirming the judgment, the court applied the strict liability principles summarized above in finding that the asbestos manufacturer had a duty to test to discover, and also to warn of, "those dangers that the application of reasonable foresight would reveal."

The utility of an insulation product containing asbestos may outweigh the known or foreseeable risk to the insulation workers and thus justify its marketing. The product could still be unreasonably dangerous, however, if unaccompanied by adequate warnings. An insulation worker, no less than any other product user, has a right to decide whether to expose himself to the risk.

Furthermore, in cases such as the instant case, the manufacturer is held to the knowledge and skill of an expert. This is relevant in determining (1) whether the manufacturer knew or should have known the danger, and (2) whether the manufacturer was negligent in failing to communicate this superior knowledge to the user or consumer of its product. [Citation omitted.] The manufacturer's status as expert means that at a minimum he must keep abreast of scientific knowledge, discoveries, and advances and is presumed to know what is imparted thereby. But even more importantly, a manufacturer has a duty to test and inspect his product. The extent of research and experiment must be commensurate with the dangers involved. A product must not be made available to the public without disclosure of those dangers that the application of reasonable foresight would reveal. Nor may a manufacturer rely unquestioningly on others to sound the hue and cry concerning a danger in its product. Rather, each manufacturer must bear the burden of showing that its own conduct was proportionate to the scope of its duty. 182/

181/ 493 F.2d at 1088.

182/ 493 F.2d at 1089-90.

The court held that the trial court did not err in instructing the jury on strict liability, and upheld the jury finding that the asbestos manufacturers failed to warn of the dangers connected with their products. 183/

The defendants next challenge the jury's finding that their products were unreasonably dangerous for failure to give warnings. They cannot deny, however, that once the danger became foreseeable, the duty to warn attached. [Citation omitted.] Here, the defendants gave no warning at all. They attempt to circumvent this finding by arguing, disingenuously, that the danger was obvious. For present purposes, it is sufficient to note that Borel testified that he did not know that inhaling asbestos dust could cause serious illness until his doctors advised him in 1969 that he had asbestosis. Furthermore, we cannot say that, as a matter of law, the danger was sufficiently obvious to asbestos installation workers to relieve the defendants of the duty to warn. 184/

[W]hen a failure to give adequate warning is alleged to have made a product unreasonably dangerous, the standard for strict liability is essentially similar to the standard for establishing negligence: the seller or manufacturer has a duty to warn of foreseeable dangers.

From all that appears, Borel used the defendants' product exactly for its intended purpose. Rather, the defendants allege merely that Borel was contributorily negligent in failing to use a respirator. This form of contributory negligence amounts to a failure to discover a defect in the product or to guard against the possibility of its existence and is not a defense to a strict liability action. 185/

183/ Id. at 1092.

184/ Id. at 1093.

185/ Id. at 1099.

Several of the defendants had placed a warning label on packages of their products commencing in 1964. The warning included language that "this product contains asbestos fiber. Inhalation of asbestos in excessive quantities over long periods of time may be harmful." The court considered this warning inadequate.

It should be noted that none of these so-called "cautions" intimated the gravity of the risk: the danger of a fatal illness caused by asbestosis and mesothelioma or other cancers. The mild suggestion that inhalation of asbestos in excessive quantities over a long period of time "may be harmful" conveys no idea of the extent of the danger. The admonition that a worker should "avoid breathing the dust" is black humor. 186/

Finally, the court pointed out an inconsistency in the defendants' legal contentions.

The appellants are in the anomalous position of arguing that (1) the danger was obvious; (2) yet three issued no semblance of a warning and three posted diluted "cautions" which might alert the contractor-purchasers, but not the workers, the final users; and (3) all admit that they never conducted any tests to determine the extent of the danger.

* * *

The unpalatable facts are that in the twenties and thirties the hazards of working with asbestos were recognized; that the United States Public Health Service documented the significant risk in asbestos textile factories in 1938; that the Fleischer-Drinker report was published in 1945; that in 1961 Dr. Irving Selikoff and his colleagues confirmed the deadly relationship between insulation work and asbestosis. . . . During his working years, he [Borel] received no warnings of any kind from three of the six defendants. The other three defendants issued no warnings

186/ Id. at 1104.

until 1964-66, by which time adequate warnings would have come too late for Clarence Borel. 187/

Borel has been recognized as the landmark case in asbestos liability litigation. The preceding quotations and discussions show that failure to test and failure to warn were key factors in the decision. These same factors are also pivotal in the school situation.

A critical issue will be whether the alleged danger of asbestos products to school children was foreseeable so that the manufacturers had duties to test and warn. In Karjala v. Johns-Manville Products Corp., 523 F.2d 155 (8th Cir. 1975), a

187/ Id. at 1105-06. The court also held:

In the instant case, it is impossible, as a practical matter, to determine with absolute certainty which particular exposure to asbestos dust resulted in injury to Borel. 493 F.2d at 1094.

Where several defendants are shown to have each caused some harm, the burden of proof (or burden of going forward) shifts to each defendant to show what portion of the harm he caused. If the defendants are unable to show any reasonable basis for division, they are jointly and severally liable for the total damages. 493 F.2d at 1095.

Though it is often possible to identify the manufacturers of the sprayed asbestos product, it may also be possible to establish liability against primary manufacturers based on market share. See Sindell v. Abbott Laboratories, 26 Cal.3d 588 (1980), 163 Cal.Rptr. 132, 607 P.2d 924, cert. denied, ___ U.S. ___, 101 S.Ct. 286 (1980) (manufacturers of DES can be held liable based on market proportion, because particular manufacturer of drug administered to plaintiff's mother many years earlier could not be identified). See also Hardy v. Johns-Manville Sales Corp., supra. The court also held that Borel's cause of action did not accrue until the effects of the asbestos exposure manifested themselves, so that the action was not barred by the applicable statute of limitation.

diversity case applying Minnesota law, the court upheld a jury instruction which held the manufacturer to a duty to advance the state of medical knowledge and to warn of foreseeable risks.

The instruction read:

A manufacturer has a duty to test and inspect his products, and the extent of such research and experiment must be commensurate with the dangers involved. A product must not be made available to the public without disclosure of those dangers that the application of reasonable foresight would reveal. A manufacturer is held to the knowledge and skill of an expert in determining whether or not his product is defective or otherwise dangerous. It is admitted that Johns-Manville knew as early as 1942 that asbestos would cause asbestosis when inhaled by factory workers. Mr. Karjala, however, is not a factory worker. He is an insulation installer. It is for you to decide whether or not Johns-Manville knew in fact of the danger to Mr. Karjala of contracting asbestosis. . . .

In reaching your decision, you may consider the knowledge which Johns-Manville had relative to factory workers and whether or not this knowledge would put Johns-Manville on notice of the danger to Mr. Karjala as an insulation worker. 188/

It seems clear that as a minimum a plaintiff school district should be able to "get to the jury" on the contention that industry knowledge of dangers to factory workers created a duty to test with respect to possible dangers of exposure caused by release of

188/ 523 F.2d at 158. The court affirmed the judgment of the district court on the jury verdict in favor of the plaintiff. The court also upheld application of the manifestation rule to the statute of limitation issue. The time at which Karjala's impairment manifested itself was for the jury to determine. Id. at 161.

asbestos fibers from friable products, in classrooms which would be occupied by children for many years. The same is true with respect to the duty to warn that airborne asbestos fibers are dangerous. In other words, it should be possible to create a convincing case of foreseeability of harm -- a central issue in products liability litigation. In Davis v. Wyeth Laboratories, Inc., 399 F.2d 121 (9th Cir. 1968), it was held that the defendant manufacturer had a duty to warn consumers of the statistical risk that less than one person in a million may contract polio by taking its vaccine. The court held that the failure to meet this duty rendered the drug "unfit" and "unreasonably dangerous" within the meaning of Section 402A of the Restatement. The court emphasized that even though the advantage to be gained by use of a product is great, it is necessary to warn the consumer of risks involved, so that the consumer can make a free choice.

It [appellee] would approach the problem from a purely statistical point of view: less than one out [of] a million is just not unreasonable. This approach we reject. When, in a particular case, the risk qualitatively (e.g., of death or major disability) as well as quantitatively, on balance with the end sought to be achieved, is such as to call for a true choice judgment, medical or personal, the warning must be given. 189/

Given the concern of parents for the safety of their own children, it is obvious that a warning that asbestos may pose even a very small quantitative degree of risk -- but a risk of death or disablement -- would likely be a material factor

189/ 399 F.2d at 129-30.

influencing the decision of a school district whether to allow installation of asbestos in its schools. In fact, the discovery of the potential risks after the fact has led in some cases to closings of schools while asbestos was removed, 190/ costly efforts to remove asbestos from schools, 191/ and the enactment of the Asbestos School Hazard Act by Congress. It seems likely that if school districts had been warned that it was proposed to install friable asbestos in their schools, which could cause mesothelioma or lung cancer, most school districts would not have allowed installation of the product.

Strict Liability Conclusion

Accordingly, in many situations a school district could successfully state a strict liability cause of action. The claim should survive a motion to dismiss. The qualifications to this conclusion are that the economic loss issue already discussed would have to be resolved favorably, and the action would have to survive scrutiny under the applicable statute of limitation. Then, the school district would face a factual issue as to whether the friable asbestos created a risk of personal injury. "Failure to warn" and "failure to test," which are crucial to the showing of the breach of a "duty," should not be difficult to establish based on the history of previous asbestos litigation.

190/ E.g., New York Times, June 11, 1979 at B3 (New York City Public Schools 185 and 205).

191/ See Section VI (Case Studies) in the General Background portion of this Report, supra.

The United States, or a school district, could recover on a strict liability claim. As in Borel, likely defendants may find themselves in an anomalous position on the limitation issue. Since the industry originally sold the products without any warning and still contends that asbestos in the schools poses no "unreasonable risks," 192/ it may be difficult for likely defendants to establish that plaintiffs have been dilatory in seeking abatement. If plaintiffs can establish the existence of a hazardous condition requiring abatement, little more may be required to sustain recovery, in view of the manufacturers' failure to warn and test regarding the dangerous propensities of friable asbestos products.

2. Negligence

The Restatement (Second) of Torts, Sections 388 and 394 (1965), sets forth the elements of a products liability claim for negligence. The Restatement provides that a supplier or manufacturer of a chattel known to be dangerous for its intended use is liable for bodily harm resulting from the use if he (a) knows, or should know, that the chattel is likely to be dangerous, (b) has no reason to believe that the user will know the danger, and (c) fails to warn the user of the dangerous condition.

192/ Letters of April 23, 1981 and May 4, 1981, on behalf of Asbestos Information Association/North America to Asbestos Liability Task Force, U.S. Justice Dept.; answers to complaint and interrogatories by defendants U.S. Gypsum Co. and National Gypsum Co. in Cinnaminson Township Bd. of Education v. National Gypsum Co., General Background Section VI A, supra.

As already stated, Borel held that where failure to give adequate warning is alleged to have made a product unreasonably dangerous, "the standard for strict liability is essentially similar to the standard for establishing negligence: the seller or manufacturer has a duty to warn of the foreseeable dangers." 193/

The allegations of negligent acts in Borel included failure to warn, failure to test the products, and failure to remove the products from the market upon ascertaining that the products would cause asbestosis. 194/ Although the plaintiff won in Borel on the strict liability claim, he lost on the negligence claim in spite of the similarity between the causes of action. The jury found that two of the defendants were not negligent even though those same defendants were liable on a strict liability claim, and found that Borel had been contributorily negligent which served to bar his recovery on the negligence claim, but not on the strict liability claim.

We do not consider an extended discussion of a negligence cause of action to be necessary. In general, the conclusions stated with respect to strict liability are also applicable to a negligence claim. The first legal issues section of this Report dealing with duty, breach of duty and injury, summarizes the elements of a products liability claim for negligence. Counsel in a particular case will determine whether to include a negligence claim along with a strict liability claim based on consideration

193/ 493 F.2d at 103.

194/ Id. at 1086.

of several factors under the law of the appropriate jurisdiction including whether there are any bars to recovery in strict liability not applicable to a negligence action -- several courts have held that economic loss may be recovered in negligence but not in strict liability ^{195/} -- and whether any disadvantages arise from including a negligence claim. As a practical matter, most plaintiffs' attorneys plead both strict liability and negligence in products liability cases.

Negligence Conclusion

The United States, or a school district, could recover the costs of abating asbestos hazards on a negligence claim.

3. Implied Warranty

The two implied warranties utilized in cases of this nature are the implied warranty of merchantability, reflected in U.C.C. §2-314, and the implied warranty of fitness for a particular purpose, reflected in U.C.C. §2-315. A number of cases have found an implied warranty of safety as to a wide variety of products. See, e.g., Henningsen v. Bloomfield Motors, Inc., 32 N.J. 358, 161 A.2d 69 (1960) (automobile).

The elements of an implied merchantability claim are:

- (1) that a merchant sold goods,
- (2) which were not "merchantable" at the time of sale, and
- (3) injury and damages to the plaintiff or his property

^{195/} See note 147 at p. 106, supra.

(4) caused proximately and in fact by the defective nature of the goods, and

(5) notice to seller of injury. 196/

The key requirement for merchantability is that the product be fit for the ordinary purposes for which it is intended.

The elements for an implied warranty of fitness claim not required for an implied warranty of merchantability claim are:

- (1) The seller must have reason to know the buyer's particular purpose.
- (2) The seller must have reason to know that the buyer is relying on the seller's skill or judgment to furnish appropriate goods.
- (3) The buyer must, in fact, rely upon the seller's skill or judgment. 197/

The problem with an implied warranty claim is that under U.C.C. §2-715, the cause of action accrues at the time of delivery. However, as already discussed, it can be contended that the U.C.C. is not applicable here, since the defective product has been incorporated into real property. Also, in Sampson Constr. Co. v. Farmers Cooperative Elevator Co., 382 F.2d 645 (10th Cir. 1967) (Oklahoma law), the court held that the implied warranty cause of action with respect to defective concrete accrued when the company learned of the defect rather than at the time of completion. Accordingly, an action commenced almost six years after completion was not barred.

196/ White & Summers, Uniform Commercial Code at 343 (2d ed. 1980).

197/ Id. at 358.

In the situation addressed by this Report, the primary advantage of the restitution and tort theories over an implied warranty cause of action is the greater likelihood of a favorable outcome under statutes of limitation. Also, the U.C.C. requires that the buyer must give the seller notice within a reasonable time after he knows or should know of the breach 198/ and sanctions disclaimers by the seller. 199/ In the early part of the twentieth century, there was an additional critical advantage in that privity of contract was required in a warranty action, whereas privity was not required in a negligence or strict liability action. 200/ Now, however, the modern trend even in implied warranty actions "is away from privity to foreseeability as the criterion for liability." 201/

It appears that a school district could state a claim for relief grounded upon an implied warranty of merchantability and a warranty of fitness for a particular purpose. It is clear that if friable asbestos is hazardous as claimed, it is and was unfit for use in classrooms. It will be necessary for local counsel to review a particular situation, and determine whether under the statute of limitation rules of the particular jurisdiction, an implied warranty claim should be included along with claims for

198/ U.C.C. §2-607(3).

199/ U.C.C. §2-316.

200/ See 1 Anderson, *The Uniform Commercial Code*, Section 2-314:141 at 629 (negligence); *id.*, Section 2-314:178 at 651 (strict liability) (2d ed. 1970).

201/ *Id.*, Section 2-314:47 at 571.

restitution, strict liability, and negligence. For example, the economic loss hurdle faced in strict liability claims will not be an obstacle to an implied warranty claim in some jurisdictions. ^{202/}

Finally, it will be necessary to review the contract and specification documents pertaining to the original construction and sales contracts, to determine whether there is an express warranty or other provision, on which a contractual claim for relief can be founded. As an example, one set of documents reviewed pertaining to a recent contract to remove asbestos from a school, contained provisions that, had they been included in the original contract pertaining to construction of the school building, would probably have constituted an express, prospective warranty of fitness.

Implied Warranty Conclusion

Statutes of limitation will, in many jurisdictions, render recovery on an implied warranty theory unlikely. There are exceptions, however, as previously indicated, so that counsel representing the United States or a school district should carefully investigate an implied warranty claim, which is traditionally included along with strict liability and negligence claims in products liability actions.

^{202/} White & Summers, Uniform Commercial Code at 355, 408 (2d ed. 1980). ("Most of the courts allowing non-privity consumers to recover for direct economic loss limit the consumer purchaser to an action based on a Code warranty.").

G. Misrepresentation

The elements of the tort cause of action in deceit (or fraudulent misrepresentation) are: (1) the making of a false representation by the defendant; (2) the statement is either knowingly false or not known by the defendant to be true; (3) the defendant intends the plaintiff to act on the misrepresentation; (4) the plaintiff justifiably relies on the statement; (5) the reliance results in damage to the plaintiff. 203/

Section IV of the General Background portion of this Report summarized a number of documents evidencing industry knowledge of the hazards of asbestos as long ago as the 1930's. If nondisclosure can serve as the basis for an action in deceit, then this theory of action may be maintainable against asbestos manufacturers who sold their products in the absence of warning, with the advantage that there is no obstacle to recovery of economic loss. In fact, the ordinary purpose of a misrepresentation action is to recover "economic loss." This advantage may outweigh the disadvantage of having to prove additional elements not necessary in strict liability or negligence.

The older rule was that deceit could not lie for nondisclosure. 204/ However, "[t]he law appears to be working toward the

203/ Prosser, *Law of Torts* at 685-86 (4th ed. 1971). Liability may extend to parties not directly communicated with, but who the defendant desires to influence or whose reliance on the representation should be anticipated. *Id.* at 702-03.

204/ *Id.* at 696.

ultimate conclusion that full disclosure of all material facts must be made wherever elementary fair conduct demands it." 205/

There is a tendency to find a duty of disclosure where the defendant has means of knowledge not open to the plaintiff and is aware that the plaintiff is acting under a misapprehension as to the facts which could be of importance to him, and would probably affect his decision." 206/ Even though the facts withheld are likely to cause only economic loss, the modern rule is that the seller who fails to disclose latent defects known to him is liable for resulting economic loss. 207/

An example of an actionable fraud based on nondisclosure is the decision in Musgrave v. Lucas, 193 Or. 401, 238 P.2d 780 (1951). The defendant sold a sand and gravel business to the plaintiff but withheld the fact that the Corps of Engineers challenged the right to continue the sand and gravel extraction. The court, in finding that a cause of action was stated, held that "[a]ctionable fraud may be committed by a concealment of material facts as well as by affirmative and positive misrepresentation." 208/

As already stated, economic loss is recoverable in an action for deceit. Accordingly, deceit is a valuable additional cause of action in situations in which factual investigation discovers the

205/ Id. at 698.

206/ Id. at 697.

207/ Id. at 697-98.

208/ 238 P.2d at 784.

presence of the necessary elements, in jurisdictions in which recovery for economic loss in strict liability or negligence is uncertain. 209/

In addition to damages for deceit, misrepresentation may also be the subject of equitable remedies, such as imposition of a constructive trust, designed to redress the plaintiff where a defendant has been unjustly enriched. 210/ The retention of profits by asbestos manufacturers who, allegedly, knowingly sold hazardous products to school districts who must now abate the hazards, may be found to constitute unjust enrichment.

Conclusion

A school district could recover the losses incurred from abating asbestos hazards, from the asbestos manufacturers, by tort actions for deceit where the necessary elements exist. Though the plaintiff must prove elements not required in strict liability or negligence, there is on the other hand no obstacle to recovering economic loss. Also, deceit, where intentional, is one of the torts for which punitive or exemplary damages may be awarded, for the purposes of punishment and deterrence. 211/ The discovery rule is ordinarily applicable to determining the

209/ In some jurisdictions, an action is also maintainable for a negligent as opposed to an intentional misrepresentation, with, however, the same effect -- there is no obstacle to the recovery of economic loss. Prosser, Law of Torts at 705 (4th ed. 1971).

210/ Id. at 687. The misrepresentation does not have to be intentional to justify equitable remedies.

211/ Id. at 9-10, 735-36.

accrual of negligent or intentional misrepresentation causes of action, for purposes of statutes of limitation. 212/

212/ E.g., Moorman Mfg. Co. v. National Tank Co., 414 N.E.2d 1302, 1314 (Ill.App. 1980).

D. Nuisance

"A public nuisance is an unreasonable interference with a right common to the general public" and includes conduct which "involves a significant interference with the public health, the public safety, the public peace, the public comfort or the public convenience." Restatement (Second) of Torts, §821(b) (1979).

Parents, students, and state attorneys general may therefore have a potential nuisance claim against a school district that refuses to abate a proven asbestos hazard. It should be stressed that a school district, if sued, may seek indemnity (or at least contribution) from the asbestos manufacturer. 213/ No attempt is made in this Report to state conclusions as to the outcome of a nuisance action against a school district -- since actions against school districts, as opposed to actions on their behalf, are not the subject of the Act under which this Report has been prepared.

The school district itself, since it ordinarily owns and controls the property, would not appear able to maintain a nuisance action against the asbestos manufacturers. 214/ A nuisance action is generally brought against the entity currently in control of the nuisance, with an injunction or abatement order being the remedy sought to halt a continuing nuisance.

213/ See Section II A 2, supra.

214/ See Moran v. Pittsburgh-Des Moines Steel Co., 166 F.2d 908, 912-14 (3d Cir.), cert. denied, 334 U.S. 846 (1948).

Conclusion

The United States or a school district could not maintain a nuisance cause of action against asbestos manufacturers.

E. Other Possible State Law Claims

Other claims may be developed by counsel based on particular state statutes or common law rules. An example is the fraud and deception treble damages claim under a Texas statute, included in the complaint filed by the Dayton Independent School District. 215/ The conclusion is that restitution, strict liability, negligence, and in some cases, implied warranty and/or misrepresentation, will prove to be the viable claims in most jurisdictions.

215/ See Section VI B in the General Background portion of this Report.

**F. Aids in Establishing the Hazard Element of
A Restitution or Products Liability Claim**

The congressional findings in the Asbestos School Hazard Act are relevant to an action but only as weighty evidence that a hazard exists. They fall far short of declaring a nuisance per se. A nuisance per se is created by a violation of a statute, ordinance or other legal requirement, and not by a legislative finding. A legislative finding does not have the force of law but simply evinces congressional intent and thus aids in the judicial construction of the meaning and purpose of the statute of which it is part.

Furthermore, it is not clear that, standing alone, a federal legislative finding is at all binding on state courts. State common law is, of course, solely a matter of state law. To the extent that the legislature may declare an activity to be a public nuisance or otherwise affect the judicial outcome of the merits of an action under state law, it is the prerogative of the state legislature, and not the domain of the federal government. Indeed, the Asbestos Act explicitly denies any intention to affect the legal rights of individuals.

Nevertheless, the congressional findings in the Asbestos Act are relevant to a restitution or products liability action as an important consideration in the judicial resolution of the hazard issue. Judicial determination of common law claims depends on an understanding of societal norms which are in turn often manifested in recent legislative enactments. However, even in this respect, the effect of the Asbestos Act's findings is somewhat

limited. Although they strongly support the proposition that the presence of asbestos poses an unreasonable public health hazard, the language of the specific findings at issue does not purport to address directly the unreasonableness of the conduct of the asbestos manufacturers. Thus only one, albeit a key, element of a restitution or products liability claim is affected.

1. Background: Asbestos School Hazard Act

The major purposes of the Asbestos School Hazard Detection and Control Act of 1980 are three-fold: (1) to establish a program for the inspection of schools to detect the presence of hazardous asbestos materials; (2) to provide loans to states or local educational agencies to contain or remove hazardous asbestos materials from schools; and (3) to replace such materials with other suitable building materials. The general statutory scheme calls for federal funding of state and local efforts to address the asbestos problem. The Act expressly denies (Pub. L. No. 96-270, Section 10, 20 U.S.C. 3609) any intent to create a legal standard of conduct or to assess legal responsibility for the harm inflicted. Instead, it mandates that the Attorney General prepare for Congress a report concerning legal liability.

The congressional findings relevant to the issue posed by this section of our report are contained in Section 2 of the Act (20 U.S.C. 3601):

The Congress finds that --

- (1) exposure to asbestos fibers has been identified over a long period of time and by reputable medical and scientific evidence as

significantly increasing the incidence of cancer and other severe or fatal diseases, such as asbestosis;

(2) medical evidence has suggested that children may be particularly vulnerable to environmentally induced cancers;

(3) medical science has not established any minimum level of exposure to asbestos fibers which is considered to be safe to individuals exposed to the fibers;

(4) substantial amounts of asbestos, particularly in sprayed form, have been used in school buildings, especially during the period 1946 through 1972;

(5) partial surveys in some States have indicated that (A) in a number of school buildings materials containing asbestos fibers have become damaged or friable, causing asbestos fibers to be dislodged into the air, and (B) asbestos concentrations far exceeding normal ambient air levels have been found in school buildings containing such damaged materials;

(6) the presence in school buildings of friable or easily damaged asbestos creates an unwarranted hazard to the health of the school children and school employees who are exposed to such materials. [Emphasis supplied.]

This section of the report addresses the relevance of these findings to a restitution or products liability action predicated on the allegation that the presence of friable asbestos in a school amounts to a hazard or a nuisance.

2. Nuisance Law in General

Most simply stated, a "nuisance" does not signify any particular kind of conduct on the part of the defendant. Instead, the term refers to the invasion of two kinds of legal interests -- a right common to the public, or the private interest in the use and enjoyment of land -- by conduct that is tortious because it

falls within traditional categories of tort liability. These two different types of harm correspond respectively to public and private nuisances. 216/ Specifically, a "private nuisance" involves an unlawful invasion of another's interest in the private use and enjoyment of his land. 217/ And a "public nuisance" is "an unreasonable interference with a right common to the general public." 218/

According to the Restatement of Torts both types of nuisance may be classified either as an intentional or unintentional tort:

One is subject to liability * * * if, but only if, his conduct is a legal cause of an invasion * * * and the invasion is either

(a) intentional and unreasonable, or

(b) unintentional and otherwise actionable under the rules controlling liability for negligent or reckless conduct, or for abnormally dangerous conditions or activities. 219/

Of particular pertinence to the relevance of congressional findings in the Asbestos Act to the existence of a nuisance, the Restatement identifies (§821B) three sets of "circumstances" which lend support to a ruling that an actionable public nuisance exists:

216/ See generally Restatement (Second) of Torts, Introductory Note Ch. 40, §821A comment c (1979). See also Prosser, Law of Torts §86 (4th ed. 1971).

217/ Restatement, §822.

218/ Id. §821B. The most practical difference between private and public nuisances is simply that the former involves only interest in real property and the latter involves harm to a great many people. Their definitions, of course, are not mutually exclusive, and consequently certain conduct may constitute both types of nuisances (e.g., when the interference is to a public right which involves land).

219/ Id. §822. See Restatement, supra, §821B comment h, §822 comment a.

Circumstances that may sustain a holding that an interference with a public right is unreasonable include the following:

- (a) Whether the conduct involves a significant interference with the public health, the public safety, the public peace, the public comfort or the public convenience, or
- (b) whether the conduct is proscribed by a statute, ordinance or administrative regulation, or
- (c) whether the conduct is of a continuing nature or has produced a permanent or long-lasting effect, and, as the actor knows or has reason to know, has a significant effect upon the public right.

On their face, the congressional findings in the Asbestos School Hazard Detection and Control Act of 1980 appear to address all of these circumstances.

3. Relationship of Congressional Findings to the Existence of a Nuisance

Theoretically, a congressional finding could have a range of impacts on common law, including, in descending magnitude of impact: establishing a conclusive presumption that the presence of friable asbestos in schools is an actionable nuisance (*i.e.*, a nuisance per se); providing significant evidence, susceptible to judicial notice, that an unreasonable interference with a right common to the public exists; or having no effect at all. For several reasons, the congressional findings in the Asbestos Act appear to have an effect on nuisance law which falls somewhere between these latter two possibilities.

Most importantly, any argument that congressional findings in the Asbestos Act have a conclusive impact on nuisance law is met with an initial formidable obstacle. The Asbestos Act

expressly disclaims any intention of affecting the legal rights of anyone. It specifically provides (20 U.S.C. 3609) that "nothing in this Act shall * * * affect the right of any party to seek legal redress in connection with the purchase or installation of asbestos materials in schools or any claim of disability or death related to exposure of asbestos in a school setting * * *." Taken literally, this provision most certainly precludes any argument that the Act's legislative findings significantly affect a common law public nuisance action by establishing that the presence of friable asbestos in school buildings is a nuisance per se.

However, with respect to nuisance per se, any legal effect of this "retained right" provision is really incidental because a congressional finding would not, in any event, be sufficient to support such a legal claim. Instead, like preambles to statutes, such declarations of legislative findings "do not constitute an exertion of the will of Congress which is legislation, but a recital of considerations which in the opinion of that body existed and justified the expression of its will" in other portions of the legislation. Carter v. Carter Coal Co., 298 U.S. 238, 290 (1936). 220/ Thus, such congressional recitations principally serve as an aid to judicial interpretation and understanding of

220/ See also Yazoo and Mississippi Valley River R.R. Co. v. Thomas, 132 U.S. 174, 138 (1889); Ass'n of American Railroads v. Costle, 562 F.2d 1310, 1316 (D.C. Cir. 1977); Bissette v. Colonial Mortgage Corp. of D.C., 477 F.2d 1245, 1246 n.2 (D.C. Cir. 1973); Lehigh and New England Ry. Co. v. ICC, 540 F.2d 71, 79 (3d Cir. 1976), cert. denied, 429 U.S. 1061 (1977); Hughes Tool Co. v. Meier, 486 F.2d 593, 596 (10th Cir. 1973); 14 C. Sands, Sutherland Statutes and Statutory Construction, §520.02, 20.09 (4th ed. 1972).

the main body of the statute. 221/ However, even within those narrow confines, their role has been quite limited. The normal rule applied by most courts is that so long as the legislative intent in the rest of the statute is clear, there is no occasion to resort to such legislative declarations; 222/ only if judicial construction of the statute is in need of guidance are these declarations, although not conclusive, entitled to judicial consideration. 223/

Consequently, the congressional findings of fact in the Asbestos Act are inapposite to the Restatement's assertion (§821B (b)) that "whether the conduct is proscribed by a statute, ordinance or administrative regulation" is relevant to determining whether it constitutes a public nuisance. They neither purport

221/ See generally 2A Sands, Sutherland Statutes and Statutory Construction, §47.04 (4th ed. 1972). Legislative declarations of findings and purpose were historically included in the preamble portion of the statute. Preambles, as a matter of form, were not considered an "operative" provision of the statute as they generally are placed before a statute's enabling clause. Some courts discounted legislative declarations in preambles on this basis. See, e.g., Yazoo & Mississippi Valley River R.R. Co. v. Thomas, 132 U.S. 174, 188 (1889); James v. Orange Sav. & Loan Ass'n, 195 So.2d 183, 187 (La.App. 1967); Harrell v. Hamblen (footnote continued)

222/ See, e.g., In Re Camden Shipbuilding Co., 227 F.Supp. 751, 753 (D. Me. 1964); Idaho Commission on Human Rights v. Campbell, 95 Idaho 215, 506 P.2d 112 (1973). But see Bell v. Jones, 272 Ala. 305, 132 So.2d 120, 129 (1961) (in case of doubt or (footnote continued)

223/ See, e.g., Price v. Forrest, 173 U.S. 410, 427 (1899); Coosaw Min. Co. v. South Carolina, 144 U.S. 550, 563 (1892); Fidlin v. Collison, 9 Mich.App. 157, 156 N.W.2d 53, 57 n.4 (1967); Griffith v. New Mexico Public Service Comm'n, 86 N.M. 113, 520 P.2d 269, 271 (1974); Curly's Dairy, Inc. v. State Dept. of Agriculture, 244 Or. 15, 415 P.2d 740, 753 (1966); Chambers Lumber Co. (footnote continued)

to nor actually have the effect of establishing a legal standard of conduct.

Nevertheless, a relatively strong argument can be constructed that legislative declarations may have significant impact on common law, including judicial application of nuisance doctrine in the context of asbestos litigation, without directly declaring the rights and legal liabilities of the parties. This argument rests on two fundamental doctrines: the weightiness of legislative findings and the duty of common law courts to look to the policy behind legislative enactments in applying common law principles. Such an indirect effect on nuisance law does not affront the Asbestos Act's "retained rights" provision; federal law would not be preempting state law, but a legislative finding would simply be providing evidence of an important circumstance, subject to judicial notice, relevant to judicial application of state law.

(footnote 221 continued)

County Quarterly Court, 526 S.W.2d 505, 508 (Tenn.App. 1975); see generally, 2A Sands, Sutherland Statutes and Statutory Construction, supra, §47.04. Arguably, therefore, legislative declarations such as those in the Asbestos Act, which are not in a formal preamble but are an "operative" portion of the statute, are entitled to greater weight than a preamble declaration normally is. Such a distinction, however, has been criticized as unfounded. Id. Legislative declarations prior to an enabling clause should not be discounted on that account, but neither can the general prefatory nature of legislative declarations be ignored. Cf. Hughes Tool Co. v. Meier, 486 F.2d 593, 596 (10th Cir. 1973); Hartman v. Washington State Game Commission, 85 Wash.2d 176, 179, 532 P.2d 614 (1975).

(footnote 222 continued)

inconsistency in an enacting part of a statute and language in its preamble, the preamble controls).

(footnote 223 continued)

v. Martin, 112 Ga.App. 826, 146 S.E.2d 529 (1965); Besozzi v. Indiana Employment Sec. Bd., 237 Ind. 341, 146 N.E.2d 100, 104 (1957).

In Lock v. Hirsh, 256 U.S. 135, 154-155 (1921), the United States Supreme Court commented on the great deference owed to a legislative determination similar in nature to that involved in the instant matter: "[A] declaration by a legislature concerning public conditions that by necessity and duty it must know, is entitled at least to great respect. In this instance Congress states a publicly notorious and almost world-wide fact. That the emergency declared by statute did exist must be assumed. * * *" 224/ Similarly, state courts have often remarked on the weighty consideration owed to legislative findings. The general rule in state courts appears to be that, depending on the degree to which the particular findings are susceptible to legislative determination, 225/ they are entitled to deference short of a binding

224/ See also United States v. Calegro De Lutro, 309 F.Supp. 462, 755 (S.D. N.Y. 1970) (although findings set forth in introductory portion of a statute do not preclude further examination, such findings are entitled to considerable weight provided it appears that a rational basis underlays them). Cf. Leary v. United States, 395 U.S. 6, 38 (1969) ("[I]t must be kept in mind that significant weight should be accorded the capacity of Congress to amass the stuff of actual experience and cull conclusions from it.") [Citation omitted.]

225/ [W]here the fact is precise and objective and it appears that the legislature is as well qualified to determine its existence as a court, the legislative determination will conclude judicial inquiry. But where the determination of fact also involves judgment factors, such as the existence of any emergency, and where the fact is capable of and likely to change, then the court usually will review the original existence of and continuation of the facts alleged in the enactment.

1A C. Sands, Sutherland Statutes and Statutory Construction, *supra*, §20.03 (Footnotes omitted).

presumption, 226/ but close to a rebuttable one: "[A] decent respect for coordinate department of government requires the court to treat [legislative findings] as true until the contrary appears." 227/

Of course, it is not generally clear the extent to which a state court applying state law need defer to a federal as opposed to a state legislative determination. However, especially in this matter in which the relevant determination involves a public health hazard, Congress should receive the greatest deference.

Moreover, according to the Supreme Court, congressional statutory declarations are relevant to judicial understanding and application of common law. Justice Harlan, writing for the Supreme Court in Moragne v. State Marine Lines Inc., 398 U.S. 375, 390-392 (1970), specifically remarked on the duty of courts to apply the common law in the spirit of the policy reflected in recent legislative enactments:

226/ The courts generally insist that a "fact" cannot be enacted as law binding on them. See generally 1A C. Sands, Sutherland Statutes and Statutory Construction, supra, §20.03 (footnote omitted) and cases cited in n.73.

227/ Thornton v. Lane, 11 Ga. 459, 521 (1852). See Basehore v. Hampden Industrial Development Authority, 433 Pa. 40, 248 A.2d 212 (1968); (legislative findings are entitled to prima facie acceptance of their correction); Clem v. City of Yankton, 83 S.D. 386, 160 N.W.2d 125 (1968) (legislative declarations entitled to great weight, but not binding on courts); State v. Anderson, 81 Wash.2d 234, 501 P.2d 184, 188 (1972); Hoppe v. State, 78 Wash.2d 164, 469 P.2d 909, 913 (1970) (legislative declaration of basis and necessity deemed conclusive as to circumstances asserted unless aided only by facts of which courts can take judicial notice, it can be said that the legislative declaration on its face is obviously false); State ex rel. Ervin v. Cotgray, 104 So.2d 346 (Fla. Sup. Ct. 1958) (legislative determinations not binding on courts, but very persuasive).

"[L]egislative establishment of policy carries significance beyond the particular scope of each of the statutes involved. The policy thus established has become itself a part of our law, to be given its appropriate weight not only in matters of statutory construction but also in those of decisional law.

* * * * *

This appreciation of the broader role played by legislation in the development of the law reflects the practices of common-law courts from the most ancient times. * * * It has always been the duty of the common-law court to perceive the impact of major legislative innovations and to interweave the new legislative policies with the inherited body of common-law principles * * *.

[Emphasis supplied.] Accord, Gaudette v. Webb, 362 Mass. 60, 284 N.E.2d 222, 228-229 (1972). 228/

In the instant matter, the relevant congressional declarations in the Asbestos Act appear to support a finding that a public nuisance exists. In particular, those declarations directly support a judicial finding that there exists a significant interference with the public health and safety. For example, clause (a)(6) proclaims that "the presence in school buildings of friable or easily damaged asbestos creates an unwarranted hazard to the health of the school children and school employees who are exposed to such materials." 229/ The existence of such a circumstance, according to the Restatement (§821B(2)), "may sustain a holding that an interference with a public right is unreasonable." Thus,

228/ In Moragne and Gaudette, the United States Supreme Court and the Massachusetts Supreme Judicial Court each held that the right to recover for wrongful death had become part of its jurisdiction's common law (i.e., federal and state).

229/ 20 U.S.C. 3601(a)(6).

It would be entirely appropriate for one seeking legal redress to offer those congressional findings as weighty evidence that the presence of friable asbestos in school buildings amounts to a hazardous condition constituting a public nuisance.

Finally, it may clearly be contended either apart from or in conjunction with the congressional findings, that the release of asbestos fibers into the air constitutes a hazardous situation as a matter of law, determined either by collateral estoppel or judicial notice of adjudicative medical fact. See Hardy v. Johns-Manville Sales Corp., 509 F.Supp. 1353, 1362-63 (E.D. Tex. 1981).

Conclusion

The result of the congressional findings and previous judicial decisions could minimize the "hazard" issue, leaving the school districts with the reduced burden of proving other elements of a restitution or products liability claim, such as: the failure of the manufacturers to warn of the hazard; the friability of the asbestos, and the cost of replacement or repair.

G. Restitution and Products Liability Choice of Law Issues

1. Jurisdiction, Venue and Choice of Law

School districts will likely have an initial choice of forum and venue. Generally, both personal jurisdiction and venue can be obtained either where the manufacturer defendants "reside" or where the affected school is located. Suit may be filed in either state court, or federal court if diversity of citizenship exists, pursuant to 28 U.S.C. 1332. The United States, if it brings an action, may sue in federal court pursuant to 28 U.S.C. 1345. Federal Rule of Civil Procedure 4(e) allows extra-territorial service of process to the same extent as the law of the forum state. Generally, most states allow extra-territorial service based on actions causing injury within the state. 230/

Whichever forum is chosen will likely apply the law of the state in which the particular school is located to determine substantive issues. 231/ There have been modern developments in choice of law decision-making that have sometimes led to application of the law of a place other than where the injury occurred based on policy determinations that another jurisdiction has a dominant interest in regulating the conduct involved. Here, however, where the jurisdiction of the plaintiff's residence, at least some of the conduct (installation of the asbestos), and place

230/ See, e.g., N.Y. Civ. Prac. §302(a).

231/ Restatement (Second) of Conflict of Laws §221 (1971) (Restitution); 16 Am.Jur. 2d Conflict of Laws §§98, 107 (1979) (tort); 16 Am.Jur. 2d Conflict of Laws §81 (1979) (contract).

of injury, all coincide; it seems clear that the substantive law of the state of the plaintiff school district will apply.

2. Whether State Law, or "Federal Common Law," Will Govern Suits Filed by the United States

An issue which may arise in litigation, especially when the United States is a party to the action, is whether relevant common law rules of liability are to be discerned from federal rather than state common law principles. To be sure, as a general matter, it is state not federal common law that governs tort actions. However, in those instances where there exists a "significant conflict between some federal policy or interest and the use of state law", federal courts have on occasion found it necessary to fashion and apply federal, rather than state, common law to resolve a legal matter. ^{232/} Thus, despite the Supreme Court's explicit admonition in Erie Railroad v. Tompkins, 304 U.S. 78 (1938) that "[t]here is no federal general common law", the Court has since applied federal common law in several types of circumstances, including where the interstate nature of a controversy rendered inappropriate the law of either state; ^{233/} where federally created substantive rights and obligations were at stake; ^{234/} where the problems involved were uniquely federal,

^{232/} Wallis v. Pan American Petroleum Corp., 384 U.S. 63, 68 (1966).

^{233/} See, e.g., Nebraska v. Wyoming, 325 U.S. 589 (1945).

^{234/} See, e.g., Textile Workers v. Lincoln Mills, 353 U.S. 448, 456-57 (1957); Clearfield Trust Co. v. United States, 318 U.S. 363, 366-67 (1943).

such as those affecting relations with foreign nations; 235/ or where the need to foster federal policies and to protect them from the inconsistencies in the laws of several states was paramount. 236/

In determining whether federal, as opposed to state common law will govern in asbestos litigation, federal courts will start with the basic assumption that it is the laws of the states which govern and "that it is for Congress, not federal courts, to articulate the appropriate standards to be applied as a matter of federal law." 237/ Weighty considerations support adherence to this basic assumption in this case. First, state law applies if "it may fairly be taken that Congress has consented to application of state law, when acting partially in relation to federal interests and functions, through failure to make other provision for matters ordinarily so governed." 238/ Second, although the United States would be a formal party to the litigation, a factor which normally would lend credence to a claim that federal common law should apply, no such support is warranted "where the Government has simply substituted itself for others

235/ Banco Nacional de Cuba v. Sabbatino, 376 U.S. 398, 421-27 (1964).

236/ Howard v. Lyons, 360 U.S. 593 (1959).

237/ City of Milwaukee v. Illinois, No. 79-408 (U.S., April 28, 1981) slip op. 9-10.

238/ United States v. Standard Oil Co., 332 U.S. 301, 309 (1947).

as successor to rights governed by state law." 239/ Express language in the Act providing that suits by the United States will be "on behalf of such recipient" against persons "liable to the recipient", 240/ strongly supports a conclusion that the United States "has simply substituted itself for others as successor to rights governed by state law" and also that Congress has consented to the application of state law. Third, although federal concern with an issue, as expressed in congressional enactments, may be taken as strong evidence of the need for uniformity in a given area of the law and thus for consistent application of federal as opposed to varying state common law, language in the Act does not appear to support such a conclusion. The Asbestos School Act provides (20 U.S.C. 3609):

nothing in this chapter [except for the section just discussed] shall --

(1) affect the right of any party to seek legal redress in connection with the purchase or installation of asbestos material . . . ;
or

(2) affect the right of any party under any other law.

Nevertheless, such considerations may not be absolutely dispositive of the issue since a case can be made that there is federal interest in uniformity of decisions in asbestos litigation. The extent and nature of the asbestos problem --

239/ Id. (liability of tortfeasor for government's losses in caring for injured soldier determined by federal common law rather than law of the state where injury occurred).

240/ 20 U.S.C. 3607(a)(1).

the pervasiveness of the national hazard posed by asbestos and the uncertain nature of the long-term effects of asbestos contamination -- render the federal interest in the legal remedies available similar to the federal interest in ensuring adequate legal redress for interstate injuries. Courts have accepted arguably comparable justifications in the context of hazardous waste litigation and applied federal common law. This is not an area in which Congress has enacted a comprehensive regulatory program and, consequently, there is no occasion for concluding that federal common law which would otherwise exist has been legislatively "preempted." 241/ At the same time, the more basic problem is whether there is federal common law to be preempted in this area. The existence of federal common law here is unlikely for the reasons already set forth, particularly since the Court develops federal common law only in a "few and restricted instances." City of Milwaukee v. Illinois, ___ U.S. ___, 101 S.Ct. 1784, 1790 (1981).

241/ Compare City of Milwaukee v. Illinois, *supra*; and Middlesex County Sewerage Authority v. National Sea Clammers Assn., ___ U.S. ___, 69 L.Ed.2d 435 (1981). See also, California v. Sierra Club, ___ U.S. ___, 101 S.Ct. 1775 (1981) (court refused to imply private right of action under Rivers and Harbors Act of 1899, 33 U.S.C. 403); Texas Industries, Inc. v. Radcliff Materials, Inc., ___ U.S. ___, 101 S.Ct. 2061 (1981) (court held federal courts not empowered to fashion federal common law contribution rule among antitrust wrongdoers).

inally, of course, even if the courts ultimately ruled that federal common law did apply, it is neither clear that the rule of law then applied would be any different than otherwise applicable state common law, 242/ nor certain that the common law principles applied would be more favorable to tort plaintiffs. 243/

Conclusion

An argument may be made that federal, as opposed to state, common law principles should govern asbestos litigation. The chances of such an argument prevailing, however, are remote. The courts will start with the assumption that state law provides the applicable legal principles. To overcome this basic assumption and other weighty considerations, the litigant seeking to invoke federal common law will need to demonstrate an especially strong federal interest in uniformity of decision in asbestos litigation, and also successfully circumnavigate several recent Supreme Court decisions.

242/ See, e.g., Board of Comm'rs v. United States, 308 U.S. 343, 349-52 (1939).

243/ The Supreme Court has demonstrated in the past that it may not be an innovative tort forum favored by tort plaintiffs. See Laird v. Nelms, 406 U.S. 797, reh. denied, 409 U.S. 902 (1972) (holding Federal Tort Claims Act does not authorize suit against government based on strict liability); United States v. Standard Oil Co., 332 U.S. 301 (1947) (holding government not entitled to indemnity from tortfeasor for losses occurring as a result of caring for injured soldier).

III. FEDERAL STATUTORY THEORIES OF RECOVERY

A. Toxic Substances Control Act

The Toxic Substances Control Act, 15 U.S.C. 2601 (1976), provides two possible causes of action to recover the expense of controlling asbestos hazards in schools. Both of these provisions, however, require action by the Administrator of the Environmental Protection Agency. Section 7 authorizes the Administrator to seek judicial remedies for imminent hazards. Section 6 authorizes the Administrator to regulate chemical hazards; Section 6 regulations may be enforced by citizen suits under Section 20.

1. Section 7: Imminent Hazards

Section 7(a)(1) provides that:

[t]he Administrator may commence a civil action . . . (B) for relief . . . against any person who manufactures, processes, distributes in commerce, or uses, or disposes of, an imminently hazardous chemical substance or mixture or any article containing such a substance . . . [including] (b)(2)(D) the replacement or repurchase of such substance, mixture, or article.

No court has yet examined the language of Section 7. Two terms pose difficult interpretive problems: (1) "imminently hazardous" and (2) "replacement or repurchase."

a. "Imminently Hazardous"

Under Section 7(f), a substance is "imminently hazardous" if it "presents an imminent and unreasonable risk of serious or widespread injury to health or the environment." 15 U.S.C. 2606(f).

The statute states that a risk "shall be considered imminent if it is . . . likely to result in . . . injury . . . before a final rule under section 6 can protect against such risk." Id.

This rule is not easily applied to carcinogens, which may have no detectable effects for 20 years or more. But the conferees emphasized that "an imminent hazard may be found at any point in the chain of events which may ultimately result in injury to health or the environment." [Emphasis supplied.] H.R. Rep. No. 94-1679, 94th Cong., 2d Sess. 78, reprinted in [1976] U.S. Code Cong. & Ad. News 4563. And judicial interpretations of similar provisions in other statutes suggest that asbestos in schools could be found to pose an "imminent hazard."

The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), authorizes the Administrator of EPA to suspend the use of any pesticide that would pose "an imminent hazard during the time required for cancellation . . . proceedings." 7 U.S.C. 136d(c)(1). It thus embodies a concept very similar to that in TSCA Section 7. In reviewing EPA decisions under FIFRA, the District of Columbia Circuit has held that evidence of carcinogenicity, by itself, is sufficient to justify a finding of "imminent hazard." The suspension of aldrin/dieldrin was upheld on the basis of data indicating that dieldrin caused cancer in mice. EDF v. EPA, 510 F.2d 1292, 1298 (D.C. Cir. 1975).

The carcinogenicity of asbestos is well-established, not only in mice but in humans as well. EDF v. EPA suggests, therefore, that EPA could obtain judicial relief on the grounds that asbestos is "imminently hazardous." This interpretation is bolstered by evidence that exposure to asbestos for even a few months causes significant increases in the incidence of cancer. See Reserve Mining Co. v. EPA, 514 F.2d 492, 508 (8th Cir. 1975),

modified, 529 F.2d 181 (8th Cir. 1976). The asbestos hazard is thus literally, as well as legally, imminent.

To be actionable under Section 7, a hazard must also pose "unreasonable risk of serious or widespread injury. . . ." 15 U.S.C. 2606(f). The legislative history notes that the risk need not be "serious" if it affects a "substantial number of people." But Congress gave little guidance to interpretation of the term "unreasonable." In interpreting other statutes, however, the courts have held that unreasonableness is to be determined according to a balance of costs and benefits. Thus, for example, under the Federal Hazardous Substance Act, 15 U.S.C. 1261(s), the District of Columbia Circuit held that:

The requirement that the risk be "unreasonable" necessarily involves a balancing test like that familiar in tort law: the regulation may issue if the severity of the injury that may result from the product, factored by the likelihood of the injury, offsets the harm the regulation itself imposes upon manufacturers and consumers.

Forester v. Consumer Product Safety Comm'n, 559 F.2d 774, 789 (D.C. Cir. 1977). See also, Aqua Slide 'N' Dive Corp. v. Consumer Product Safety Comm'n, 569 F.2d 831, 839 (5th Cir. 1978) (applying same interpretation to the Consumer Product Safety Act, 15 U.S.C. 2058); EDF v. EPA, supra (applying similar provision to potential carcinogen). Congress' assessment of the costs and benefits of asbestos in schools is indicated by the Asbestos School Hazard Act. It declares that "friable or easily damaged asbestos creates an unwarranted hazard to . . . health." 20 U.S.C. 3501(a)(6). [Emphasis supplied.] That at least suggests that the risk posed by such asbestos is "unreasonable."

Finally, the Asbestos School Hazard Act also provides some general guidance to application of the "imminent hazard" concept to the school asbestos problem. Section 6 authorizes loans for the removal of asbestos materials only if such materials "pose an imminent hazard to the health and safety of children or employees." 20 U.S.C. 3605(a)(2)(A). [Emphasis supplied.] Section 11(3) states that:

the term "imminent hazard to the health and safety" means, for purposes of section 6, that an asbestos material is, according to standards established by the Secretary, friable or easily damaged, or within easy reach of students or otherwise susceptible to damage . . . which could result in the dispersal of asbestos fibers into the school environment.

20 U.S.C. 3610(3). This definition is not, of course, conclusive as to the proper interpretation of TSCA Section 7. Nonetheless, it is persuasive evidence that Congress considers friable asbestos in schools to pose an "imminent hazard." It also suggests a congruence between the approval of a loan under Asbestos School Hazard Act Section 6, and the presence of an "imminent hazard" under TSCA Section 7.

b. "Replacement or Repurchase"

There is no guidance in the statute, or in the legislative history, to the interpretation of "replacement or repurchase." It should be noted that while Section 6 requires EPA to allow the regulated party to choose between replacement and repurchase, 15 U.S.C. 2605(a)(7), Section 7 seems to allow EPA to demand either one.

The threshold issue for the application of this phrase to the school asbestos problem is whether "replacement or repurchase"

encompasses reimbursal. Only a cramped reading of the statute would suggest that it does not. Section 7 was established to provide a remedy for risks that are "imminent and unreasonable." If the courts found that asbestos in schools posed such a risk and required that it be replaced, surely it would be incongruous to deny reimbursement to those schools who had already done so.

Once a right to reimbursement is established, of course, one must still confront the issue of causation. Here, as with other theories of liability, difficulty in tracking an asbestos hazard back to the manufacturer may interfere with recovery against some potential defendants. But the clear intent of the statute to eliminate unreasonable risks supports extension of the joint liability theories of tort law to the problems of causation under TSCA Section 7. See, e.g., Hall v. E.I. Du Pont De Nemours & Co., 345 F.Supp. 353 (E.D. N.Y. 1972).

2. Section 20: Citizen Suits to Enforce TSCA

Any person may file suit to enforce regulations promulgated under TSCA Section 6, or "to compel the Administrator to perform any act or duty . . . which is not discretionary." 15 U.S.C. 2619(a). For those seeking to recover the costs of controlling asbestos hazards, however, this provision is useless unless regulations are promulgated under Section 6. Such regulations are, of course, a prerequisite to an enforcement action. They are also necessary to render the Administrator's Section 7 duties nondiscretionary. See 15 U.S.C. 2606(a)(2). On September 17, 1980, EPA proposed a rule under Section 6(a)(3) to require schools to identify asbestos hazards, and notify parents and employees.

At that time, EPA stated that, "later in 1980," it intended to proceed with an "assessment and abatement program." 45 Fed. Reg. 61,967 (1980). Now, however, this intention has been abandoned. 46 Fed. Reg. 23,726 (April 27, 1981).

Toxic Substances Control Act Conclusion

The Toxic Substances Control Act offers two potential remedies for the school asbestos problem. If the Administrator can establish that asbestos poses an "imminent hazard," he can recover funds expended to remove it. If the Administrator promulgates a rule requiring abatement of asbestos hazards in schools, school districts can recover in actions on their own behalf. Unless the Administrator acts, however, TSCA provides no recourse for the school districts, or for the Attorney General.

B. Consumer Product Safety Act

The Consumer Product Safety Act of October 27, 1972, Pub. L. No. 92-573, provides two possible causes of action to recover the expense of controlling asbestos hazards in schools. However, each of the law's provisions requires prior action by the Consumer Product Safety Commission (CPSC), the administrative body established by the Act.

Section 12(a) of the Act authorizes the Commission to file an action "(1) against an imminently hazardous consumer product for seizure of such product . . . or (2) against any person who is a manufacturer, distributor, or retailer of such product, or (3) against both." (15 U.S.C. 2061) (1976). Section 15 of the Act authorizes the Commission, if it finds that a product presents a substantial hazard, to order the manufacturer, distributor or retailer to take any one of the following actions: repair the product, replace it, or refund the purchase price of the product. Section 15 orders are enforceable by citizen suits under Section 24. For either of these provisions to become applicable, however, a threshold question must first be resolved, namely, that asbestos is a "consumer product."

1. Consumer Product

§2052(a)(1): The term "consumer product" means any article, or component part thereof, produced or distributed (i) for sale to a consumer for use in or around a permanent or temporary household or residence, a school, in recreation, or otherwise, or (ii) for the personal use, consumption or enjoyment of a consumer in or around a permanent or temporary household or residence, a school, in recreation, or otherwise . . .

Courts have construed this definition broadly, in keeping with congressional intent, 244/ so that the Act's protective purpose can be effectuated. The bifurcated definition has been held to cover articles sold directly to consumers, 15 U.S.C. 2052(a)(1)(i), and articles not actually sold to a consumer but produced or distributed for his use and which expose the consumer to a risk. 245/ There is no suggestion in the legislative history of the Act "that Congress intended to import a 'control' requirement into the definition of the term 'consumer product.'" 246/

The term "consumer product" has been held to cover refuse bins which exposed consumers to a hazard, 247/ architectural glazing materials which were held to be a component part of such distinct consumer products as storm doors and sliding glass doors, 248/ and aluminum branch circuit wiring. 249/ With regard

244/ Senate Committee on Commerce, S. Rep. No. 749, 92d Cong., 2d Sess. 12 (1972); House Committee on Interstate and Foreign Commerce, H. R. Rep. No. 1153, 92d Cong., 2d Sess. 27 (1972). The Senate bill had defined "use" as meaning "exposure to." [1972] U.S. Code Cong. & Ad. News 4634.

245/ Consumer Product Safety Comm'n v. Chance Mfg. Co., Inc., 441 F.Supp. 228, 231-32 (D.D.C. 1977).

246/ Id. at 233. The district court found here that an amusement park ride, while not sold directly to consumers nor ever under their control, was a consumer product under the Act.

247/ United States v. One Hazardous Product, Etc., 487 F.Supp. 581 (D. N.J. 1980).

248/ ASG Industries, Inc. v. Consumer Product Safety Comm'n, 593 F.2d 1323 (D.C. Cir.), cert. denied, 444 U.S. 864 (1979).

249/ Kaiser Aluminum & Chemical Corp. v. Consumer Product Safety Comm'n, 574 F.2d 178 (3d Cir.), cert. denied, 439 U.S. 881 (1978).

to this latter commodity, however, the District of Columbia Circuit, in a 1979 case, 250/ distinguished between the Commission's jurisdiction to proceed with investigations and rulemaking, since the Commission was authorized to "investigate the causes of injuries that are 'associated with' consumer products," 251/ and the Commission's jurisdiction to seek an adjudicatory order. In rulemaking, "if a component is a consumer product, the Commission has jurisdiction to investigate the entire system, since the hazard is 'associated with' the component, but the Commission does not have jurisdiction to seek an adjudicatory order as to the system as a whole unless that system itself qualifies as a consumer product." 252/ In looking at the qualification of aluminum branch circuit wiring as a "consumer product" under this stricter standard, the court found that it could not qualify as a component part of a consumer product because under the Act, housing is not a consumer product. 253/ Therefore, the only way such wiring could qualify is if "it is produced or distributed as a distinct article of commerce," 254/ "customarily sold or otherwise distributed to consumers." 255/ Since this determination was one for the Commission to make, the

250/ Consumer Product Safety Comm'n v. Anaconda Co., 593 F.2d 1314 (D.C. Cir. 1979).

251/ Id. at 1319, citing 15 U.S.C. 2054(a)(1) (1976).

252/ Id.

253/ Id. at 1320.

254/ Id. at 1321.

255/ Id. at 1322.

court remanded the case to the district court to determine whether the agency had undertaken the requisite analysis.

Asbestos bears some similarity to the aluminum wiring mentioned above in that it has been used as a component part in the construction of school buildings, which do not qualify as consumer products. However, if it can be demonstrated that asbestos (or asbestos products) is sold as a distinct article of commerce and distributed to consumers in this way, then presumably asbestos would be found to be a "consumer product" (not just "associated with" a consumer product), and could therefore qualify under the distinction laid down for CPSC adjudicatory actions by the District of Columbia Circuit.

However, even if asbestos passes the threshold of being a consumer product, action is still required by the CPSC in order for this statute to be of any aid in recovering the expense of controlling asbestos hazards in schools.

2. Section 12: Imminent Hazards

§2061(a) The Commission may file in a United States District Court an action (1) against an imminently hazardous consumer product for seizure of such product under subsection (b)(2) of this section, or (2) against any person who is a manufacturer, distributor, or retailer of such product, or (3) against both. . . . [T]he term "imminently hazardous consumer product" means a consumer product which presents imminent and unreasonable risk of death, serious illness, or severe personal injury.

The district court, in a Section (a)(2) suit, may grant such relief as necessary to protect the public from the imminently hazardous product, including notice, recall, repair or replacement, or refund for such product. (§2061(b)(1)). In the case of a Sec-

tion (a)(1) suit, "the consumer product may be proceeded against by process of libel for the seizure and condemnation of such product . . ." (§2061(b)(2)).

Whether asbestos in schools can be termed an imminent hazard depends on whether it can be found to present an unreasonable risk of death or serious illness or injury. In the Asbestos School Hazard Act, Congress declared that "friable or easily damaged asbestos creates an unwarranted hazard to . . . health." 256/ The use of the term "unwarranted" as well as the proven carcinogenicity of asbestos suggests that the risk posed by asbestos in schools could qualify as an "imminent hazard." See TSCA discussion, supra.

As for the relief available to the CPSC under the Act, the remedies mentioned, namely notice, recall, repair, replacement, or refund, are not exclusive and presumably reimbursements could be encompassed within available remedies. See TSCA discussion, supra.

3. Section 15: Substantial Product Hazards

2064(a) . . . the term "substantial product hazard" means . . . (2) a product defect which (because of the pattern of defect, the number of defective products distributed in commerce, the severity of the risk or otherwise) creates a substantial risk of injury to the public.

This standard for CPSC regulatory action is less stringent than the "imminent hazard" standard in the judicial remedies section. Presumably any product which could qualify as an imminent

256/ 20 U.S.C. 3601(a)(6).

hazard could also qualify as a substantial product hazard even though the definitions are worded differently, the latter requiring a "defect" in the product. Presumably, the carcinogenicity of asbestos would qualify as a defect here for the same reasons that asbestos products causing death to workers have been found "defective" within the meaning of the Restatement (Second) of Torts §402A (strict liability) (1965). 257/

Before Section 15 can authorize the CPSC to take action, the Commission must first afford interested parties an opportunity for a hearing in accordance with 5 U.S.C. 554 and must make a further determination that action under this Section is in the public interest.

The remedies detailed (notice, repair, replacement, or refund) are left to the election of the party to whom the CPSC order is directed. There is a "reimbursement" provision in this Section which could prove useful:

(e)(1) No charge shall be made to any person (other than a manufacturer, distributor, or retailer) who avails himself of any remedy provided under an order issued under subsection (d) of this section, and the person subject to the order shall reimburse each person (other than a manufacturer, distributor, or retailer) who is entitled to such a remedy for any reasonable and foreseeable expenses incurred by such person in availing himself of such remedy.

4. Section 24: Citizen Suits to Enforce Section 15

Any person may bring an action in federal district court to enforce an order under Section 15 and to obtain appropriate

257/ See discussion in strict liability section of this Report, supra.

injunctive relief. No separate suit shall be brought under this Section if the same alleged violation is the subject of a pending civil or criminal action by the United States under the Act.

Consumer Product Safety Act Conclusion

The Consumer Product Safety Act offers two potential remedies for the school asbestos problem. If the Commission finds that asbestos is a "consumer product" within its jurisdiction and can establish that it constitutes an "imminent hazard," it can presumably recover funds necessary to remove it from the schools. If the CPSC, on the other hand, orders remedial action to be taken pursuant to a hearing establishing that asbestos poses a "substantial product hazard," school districts can recover under the citizen suit provision in Section 24. Both eventualities, however, require action by the CPSC.

IV. "PERSONS" IN ADDITION TO THE MANUFACTURERS POTENTIALLY LIABLE

Section 8 of the Asbestos Act requires the Attorney General to determine whether by using all available means, the United States should or could recover "from any person" the amounts expended by the United States in carrying out the Act. The "persons" most obviously liable for such costs would be the manufacturers, who can be argued to have had duties to warn and to test, but who failed to perform those duties. The purpose of this section is to provide a very brief review of others who might be potentially liable, such as architects, general contractors, asbestos-spraying subcontractors, and distributors. 258/ However, as we indicated in our Recommendations, the decision to bring suit against parties in addition to the manufacturers is best made on a case-by-case basis. These other parties may, in such cases, have been as much in the dark as to the dangerous properties of asbestos

258/ See, e.g., Dunn v. W.F. Jameson & Sons, Inc., 569 S.W. 2d 799 (Tenn. 1978), (State Board of Regents brought action against architects, general contractor, subcontractor, material supplier, material manufacturer, and surety to recover for defective roof in university building).

fibers as the school districts. 259/ We note that in the two cases we know of filed to date only the manufacturers were made defendants. 260/

A. Distributors

Where distributors were involved in the sale of asbestos used in school construction, and can be identified, their potential liability under the Asbestos Act should be assessed. The general rule is that distributors are not liable in negligence for latent defects in the products they distribute where the product is shipped by the manufacturer in a sealed package or container (the most likely way asbestos products were sold) and the distributor is nothing more than a conduit for the manufacturer. Distributors are, however, required to exercise reasonable care to prevent injury due to known dangers and must in such circumstances transmit proper warnings and instructions. 261/

259/ It should be noted, however, that in late December, 1970, an article was published in a prominent architectural periodical discussing the occupational health hazard of asbestos and the problems the construction industry was experiencing with regulations concerning asbestos spraying. See Spray Fireproofing Faces Controls Or Jan As Research Links Asbestos To Cancer, 133 Architectural Forum 50 (Dec. 1970).

260/ See Case Studies Section in General Background portion of this Report, supra.

261/ See, Q.J., 2A L. Frumer & H. Friedman, Products Liability §§18.01, 18.02, 18.03, 20.02 (1980).

Liability for latent defects in products sold in sealed containers will normally be imposed on a breach of warranty theory where privity exists, 262/ and in most jurisdictions distributors of pre-packaged products will be liable for latent defects under the doctrine of strict liability in tort. 263/

B. Architects

The construction of public works, such as schools, are generally matters of legislative regulation, and state statutes usually prescribe the conditions under which such work is to be done on behalf of a state or its municipalities. Most public contracts for the construction of public works are required by statute to be let upon competitive bidding. 264/

262/ See, e.g., id., §§19.03 [4][c], 20.04[1].

263/ See, e.g., 2A L. Frumer & M. Friedman, supra note 255 at §§19A[1], 20.04[2]; W. Prosser, Handbook of the Law of Torts, at 664 (4th ed. 1971). But see Walker v. Decura, Inc., 225 Tenn. 504, 471 S.W. 2d 778 (1971).

Section 402A of the Restatement (Second) of Torts, includes retailers and wholesalers in the definition of seller.

Where the injury is "economic loss," however, the same considerations previously discussed in the case of manufacturers of defective products apply. Some jurisdictions limit the strict liability in tort of retailers by statute. See, e.g., 2A L. Frumer & M. Friedman, supra, note 255 at §19A [5].

264/ See, e.g., 64 Am. Jur. 2d Public Works and Contracts §2 (1972).

The plans and specifications for public projects are normally prepared by architects, 265/ who usually supervise the actual construction. It is the builder, or general contractor, however, who assumes responsibility for building and erecting a structure in accordance with the architect's plans and specifications.

An architect is required under the law to exercise the skill and diligence ordinarily required of architects. He must use the ordinary and reasonable skills usually exercised by one in his profession in preparing the plans and specifications, and he must guard against defects in the plans as to design, materials, and construction. However, in the absence of any special agreement, an architect does not imply or guarantee a perfect plan or satisfactory results. He is only liable for failure to exercise reasonable care and skill. 266/ Thus, in assessing the potential liability of architects under the Asbestos Act, one factor to determine is the extent

265/ Although state statutory provisions normally prohibit the letting of public contracts without prior advertising for bids, such provisions do not generally apply to contracts relating to the professional services of architects.

266/ See, e.g., 5 Am. Jur. 2d Architects 58 (1962). In most jurisdictions architects are not subject to "strict liability" in implied warranty. See, e.g., Sears, Roebuck & Co. v. Enco Assocs., Inc. 43 N.Y. 2d 389, 401 N.Y. S.2d 767, 372 N.E. 2d 555 (1977); City ofounds View v. Waljarvi, 263 N.W. 2d 420 (Minn. 1978).

to which the use of sprayed asbestos in building construction was considered an accepted practice by architects during the relevant time period (1946-1972).

A usual requirement of public construction contracts (and most private construction contracts as well) is the issuance of a certificate of performance. In order to avoid litigation or delay, public works contracts usually contain stipulations requiring that the work be done under the supervision of an architect or engineer, who is given authority to resolve questions concerning execution of the work. Such stipulations usually permit payment to the general contractor only upon issuance of the certificate certifying that all work has been properly performed. Absent fraud, acceptance of authorized construction work by the owner after issuance of a certificate of performance by the architect is usually prima facie evidence that the project is complete and the work was performed in a workmanlike manner. ^{267/} However, acceptance of the architect's final certificate and the project by the building owner does not constitute a waiver of latent defects caused by deficient plans or specifications, or by defective and improper

^{267/} See, e.g., 64 Am. Jur. 2d Public Works and Contracts §§116, 117 (1972); City of Midland v. Haller, 430 S.W. 2d 473 (Texas 1968).

workmanship, where the defects were unknown at the time of acceptance and were not discoverable by simple inspection. 268/

C. General Contractor and Subcontractor

The general contractor's obligations generally end upon completion of the project, and he is not normally responsible for defects or weaknesses in the structure itself, since he does not guarantee the sufficiency of the plans and specifications, but only the skill with which he performs his work. In most jurisdictions, a contractor who has followed the plans and specifications furnished him by the owner or his architect, but which later prove to be defective or insufficient, will not be responsible to the owner for any resulting loss or damage after the work has been completed, provided the contractor has not been negligent in carrying out the work, and the damage is solely attributable to inadequacies in the plans or specifications. 269/ If a contractor, on

268/ See, e.g., 13 Am. Jur. 2d Building and Construction Contracts §535, 55 (1964).

269/ See, e.g., 13 Am. Jur. 2d Building and Construction Contracts §27, 28, (1964); Annot., 6 A.L.R. 3d 1394 (1966); Mayville-Portland Sch. Dist. No. 12 v. C.L. Linfoot Co., 261 N.W. 2d 907 (N.D. 1978); Wood-Hopkins Contracting Co. v. Masonry Contractors, Inc., 235 So. 2d 548 (Fla. Dist. Ct. App. 1970).

the other hand, fails to carry out the construction work in a proper, workmanlike manner he will be liable to the building owner, not only for breach of contract, but also in tort for negligent performance of the contract. 270/ Thus, in those instances where a friable asbestos problem exists in a school because the asbestos was negligently applied, the general contractor may be potentially liable. 271/

Where, however, damage to an improvement to real property is caused by a product's defect or failure, liability is sometimes difficult to determine. 272/ The general rule is that where the contractor is without knowledge that construction materials contain defects and in good faith are incorporated in a structure and the structure is accepted by the owner, the contractor is ordinarily not liable when the defects are subsequently discovered. 273/

270/ See, e.g., 13 Am. Jur. 2d Building and Construction Contracts §138 (1964).

271/ Where the architect was required to supervise the construction work he may also be potentially liable.

272/ See, e.g., Annots. 6 A.L.R. 3d 1394 (1966); 61 A.L.R. 3d 792 (1975).

273/ See, e.g., Annot., 61 A.L.R. 3d 792 (1975).

However, where builder-vendors build and sell new residential homes together with the tracts of land upon which they are situated, the courts in some jurisdictions impose strict liability where defects in construction and/or materials are later discovered. See, e.g., Annot., 25 A.L.R. 3d 383 (1969).

When subcontractors are brought in by the general contractor, they are normally under contract to the contractor, but not with the building owner. In most jurisdictions a building owner may not sue a subcontractor for breach of his subcontract with the general contractor on the theory that the owner is a third party beneficiary; suit is usually denied on the ground that the owner is merely an incidental beneficiary of the subcontract. 274/ Accordingly, any suit by a building owner against a subcontractor will usually sound in tort. 275/ In some jurisdictions, however, after acceptance of the completed work by the owner, he cannot maintain an action against the subcontractor in tort for negligent performance of the contract where the negligence involves defective workmanship and there has been no physical injury to person or property. 276/ As is the case with a general contractor, a

274/ See, e.g., Nat'l Cash Register Co. v. Unarco Indus., Inc., 490 F.2d 285, 286 (7th Cir. 1974); N.C. State Ports Auth. v. L.A. Fry Roof. Co., 294 N.C. 73, 240 S.E. 2d 345 (1978). But see Dunn v. W.F. Jamison & Sons, Inc., 569 S.W. 2d 799, 803 (Tenn. 1978); McCall v. Towne Square, Inc., 503 S.W. 2d 180 (Tenn. 1973).

275/ Absent provisions in the subcontract giving the building owner a right of action against the subcontractor. See, e.g., Dunn v. W.F. Jamison & Sons, Inc., 569 S.W. 2d 799, 802 (Tenn. 1978).

276/ See, e.g., Crowell Corp. v. Topkis Constr. Co., 280 A.2d 730 (Del. Super. Ct. 1971) (building owner could not maintain a tort action against subcontractors who had no direct contractual relationship with owner on theory their faulty workmanship created dangerous condition in that building walls might collapse).

subcontractor gives no implied warranty against latent defects in the materials he uses in construction, where he has no knowledge of the defects, acts in good faith, and exercises reasonable care and skill. 277/

277/ See, e.g., cases collected in Annot., 61 A.L.R. 3d 792 (1975). Nearly all of the reported cases concern resultant defects in the building, rather than consequential personal or property damages. See, e.g., Wood-Hopkins Contracting Co. v. Masonry Contractors, Inc., 235 So. 2d 548 (Fla. Dist. Ct. App. 1970) (facing brick in apartment building had latent defect).

V. STATUTE OF LIMITATION ISSUES

As discussed in the General Background section of this Report, asbestos-spraying in building construction was prohibited in the United States after 1973. Because sprayed asbestos was used in school construction more than nine years ago, statute of limitation issues will have to be carefully considered in contemplating suit.

It should be cautioned that statutes of limitation, unlike some other legal issues, can involve very rigid rules. Filing an action one day prior to the running of a statute is timely; filing one day late can mean that the action is absolutely barred.

Also, it is difficult to generalize with any accuracy about statutes of limitation. For example, the Department is aware of suits filed to date in two states -- New Jersey and Texas. In Texas a statute has codified the general common law rule, departed from by statute in many jurisdictions, that limitation statutes are inapplicable to the sovereign, and has included school districts within the exception: "The right of the State, all counties, incorporated cities, and all school districts shall not be barred by any of the provisions of this Title, . . . " 16 Vernon's Tex. Civ. Stats. Ann. art. 5517 (emphasis added). In New Jersey, a statute provides that actions "for any tortious injury to real or personal property"

may be commenced within 6 years from the date of accrual. N.J. Stat. Ann. 2A:14-1 (West). Under the discovery rule (see p. 216, *infra*), the cause of action only accrues when the plaintiff knows or reasonably should know of his injury.

Diamond v. New Jersey Bell Telephone Co. 278/

The point is that it is difficult to determine whether a products liability action on behalf of a school district will be barred without an investigation by counsel into both the facts of a particular situation, and the law of the particular jurisdiction. By its very nature, this task is incapable of performance in a general survey of the type performed here. 279/

278/ 51 N.J. 594, 242 A. 2d 622 (1968) (negligent damage to sewer line which did not become apparent until several years later).

279/ The Asbestos Act provides for a two-tiered program of Federal assistance to schools. There is a grant program and a loan program. The grant program provides grants to local educational agencies, state educational agencies and non-public schools to detect potential asbestos hazards in schools; the loan program provides loans to local educational agencies and non-public schools to control detected asbestos hazards. While the statute of limitations defense is not ordinarily applicable against a state when it is suing in its sovereign capacity, local public school districts are generally not entitled to assert such an immunity. See, e.g., 51 Am. Jur. 2d Limitation Of Actions, §5416, 421 (1970); Bd. of Educ. Sch. Dist 16 v. Standardt, 60 N.H. 543, 549, 458 P.2d 795, 801 (1969); Annot., 98 A.L.R. 1221. Accordingly, if the United States brought suit under the Act on behalf of a local public school district, in most cases, it would not likely be able to assert a state sovereign immunity bar against a statute of limitation defense. On the other hand, the presence of a situation in which the United States may be viewed to be suing on behalf of a state, may result in a different outcome.

Further it must be kept in mind that different, more appropriate and more favorable principles may apply to restitution claims than apply to products liability claims (strict liability, negligence, and implied warranty). The limitation principles applicable to restitution claims have already been discussed, because they are too intertwined with the substantive principles of restitution to be separated. 280/

As discussed below, both state statutes of limitation as well as the general federal statutes of limitations governing tort and contract actions, 28 U.S.C. §§2415, 2416, would control timeliness of suit under the Asbestos Act by the United States. The United States would have to sue in the recipient's behalf prior to the running of the applicable state statutes of limitations, since once a recipient's suit is time-barred under the state statutes of limitation, suit by the United States on behalf of the recipient would likewise be time-barred. If, however, assignment of a recipient's claim to the United States is timely made, timeliness of suit by the United States would then be governed by the federal statute of limitation, 28 U.S.C. §2415.

280/ See Section II A 3 supra.

A. Application Of 28 U.S.C. §2415 To
Suit by the United States

The general rule is that neither state statutes of limitations nor state laches principles apply to suits brought by the federal government. Prior to 1966 and the passage of 28 U.S.C. §§2415, 2416, there was no general federal statute of limitations governing tort and contract actions brought by the federal government. Section 2415 now applies to all contract and tort actions, whether independent or derivative, brought by the United States in the federal courts. But Section 2415 applies in different ways, depending upon whether the government's suit is an independent action or a derivative action.

1. If A Suit By the United States Is An
Independent Action, State Statutes Of
Limitation Do Not Apply, Only 28 U.S.C.
§§2415, 2416 Govern Timeliness Of Suit

If a suit by the United States is an independent action, then state statutes of limitation have no effect on any government suits. Timeliness of suit by the United States is determined solely by 28 U.S.C. §§2415, 2416. Thus, timeliness of an independent suit by the government under the Medical Care Recovery Act, 42 U.S.C. §2561(a), is governed exclusively by 28 U.S.C. §2415. 281/ Government suit under such circumstances

281/ See, e.g., United States v. Fort Benning Rifle &
Pistol Club, 387 F.2d 884, 885 (5th Cir. 1967).

is not subject to any state statute of limitations because of the historic doctrine of sovereign immunity. 282/ Thus, under the Medical Care Recovery Act, the federal limitation period does not begin to run against the government until it has notice of the debt or has paid it. 283/ Accordingly, if a suit by the government under the Asbestos Act were determined to be an independent action neither state statutes of limitations nor laches would apply, and 28 U.S.C. §2415 may not begin to run against the government until after it had made a grant to a school district, under the accrual rule set forth in 28 U.S.C. §2416(c).

However, any suit by the United States under the Asbestos Act would probably be a derivative suit -- since it 284/ would be "on behalf of the recipient" of federal funds against parties "liable to the recipient," so that a state limitation period could bar an action by the United States if it expired prior to the assignment of a claim by the school authority to the United States.

282/ See, e.g., United States v. Gera, 409 F.2d 117 (3rd Cir. 1969); Annot., 31 A.L.R. Fed. 348 (1977).

283/ See, e.g., United States v. Angel, 470 F. Supp. 934 (E.D. Tenn. 1979).

284/ 20 U.S.C. 3607(a) (1).

2. Since Suit By The United States Under The Act Would Probably Be Derivative, Filing Of A Complaint Would Suspend The Running Of State Statutes Of Limitation If The Claim Is Not Already Time-Barred

Since a government suit under the Act would probably be a derivative suit, state statutes of limitation have to be considered. 285/

In a derivative suit brought by the United States, state statutes of limitations only apply until the government acquires the cause of action; where the assignment is timely made state, statutes of limitation cease to run against the government.

Where the government acquires a derivative claim, whether by assignment, subrogation, or by other means, and that claim is not then barred by the state statute of limitations, the state statute ceases to run against the government at the time of such acquisition.

285/ This is equally true when the defense of laches is raised in a derivative suit brought by the government.

When the United States sues to enforce a public right or to protect a public interest, the defense of laches is not available; but when the suit, although in the name of the United States, is brought for the benefit of a private person, his laches may be interposed with like effect as if he was suing.

United States v. New Orleans Pac. Ry. Co., 248 U.S. 507, 518 (1919).

United States v. Sellers, 487 F.2d 1268, 1269 (5th Cir. 1973). 286/ But where the state statute of limitations has run, assignment to the government will not revive the claim. 287/

Prior to passage of 28 U.S.C. §2415, once the United States had acquired a derivative cause of action before it was time-barred by a state statute of limitation, there was no federal statute of limitations applicable to the sovereign as plaintiff. 288/ Section 2415 has now changed this. Section 2415 was intended to establish a federal statute of limitation that would apply to all contract and tort actions brought by the United States. Section 2415 now controls timeliness of independent and derivative suits brought by the government

286/ See also United States v. Taylor, 333 F.2d 633, 640 (5th Cir. 1964); United States v. Winter, 319 F. Supp. 520, 522 (E.D. La. 1970).

287/ See, e.g., 1A, Pt. 2 Moore's Fed. Pract., ¶0.321 n. 60 (2d ed. 1980); United States v. Blackmon, 496 F. Supp. 1250, 1251 (E.D. Ark. 1980); United States v. Fall Corp., 367 F. Supp. 976 (E.D.N.Y. 1973).

288/ See, e.g., United States v. Peripignano, 86 F. Supp. 105 (D.N.J. 1949) (absent a federal statute of limitations covering such a type of action, action by the United States on a note acquired from a payee's indorsee six months after its execution was not barred even though suit was brought 11 years after the acquisition).

in federal courts. An important question, however, whenever the government brings a derivative right of action in federal court, is when does the cause of action accrue under 28 U.S.C. §2415. 289/

In United States v. Cardinal, involving a suit brought by the government on an assigned note, the court held that 28 U.S.C. §2415 "begins to run when the claim first could have been sued upon, whether or not the Government has acquired it at that time." 290/ In Cardinal, the defendants executed a promissory note for an improvement to their mobile home, and the note was assigned to a bank. After failing to make the required payments, the bank exercised its option to accelerate payment and thereafter assigned the note to the FHA, which filed suit to recover the payments. The government's action was brought within six years of the date the option to accelerate was exercised and within six years of the date the government acquired the note, but more than six years after the last payment on the note had been made. The government contended it had no legal interest in the claim prior to

289/ A cause of action accrues on the date the right to institute and maintain a suit first arises. See note 307, infra.

290/ 452 F. Supp. 542 (D.Vt. 1978).

the assignment, and 28 U.S.C. §2415 only applied when the government acquired the note, at which time the statute began to run. The defendant contended that the cause of action accrued when he defaulted. The court agreed with the government's contention that §2415 does not apply to a derivative cause of action until the government has been assigned the right to sue, but after carefully reviewing the legislative history of §2415, the court held that the government's derivative cause of action under §2415 accrued (under Vermont law) when the prior holder invoked the acceleration clause in the note and demanded payment of the balance due. Accord, United States v. Blackmon. 291/

If the Cardinal and Blackmon decisions are followed, 28 U.S.C. §2415 would begin to run against the government on a derivative claim acquired under the Asbestos Act, not at the time the government acquires the claim (presumably when the government makes a loan or grant), but at the time the recipient first could have sued upon the claim.

B. State Statutes Of Limitation

1. Generally

Since any suit brought by the United States under the Asbestos Act would probably be a derivative claim, as already

291/ 496 F. Supp, 1250 (E.D. Ark. 1980).

discussed, if the applicable state statutes of limitation have already run against a school district, assignment of the claim to the government would not act to revive it. Thus, in each and every situation where the government makes a grant and/or loan under the Asbestos School Hazard Act and considers bringing suit, there will be an issue of whether the recipient school district's claim was barred under the applicable state statutes of limitation before the claim was assigned to the federal government.

Accordingly, an overview of typical state statute of limitation issues likely to be encountered, follows.

Besides traditional statutes of limitation some jurisdictions also have special statutes that impose strict time limitations within which actions against architects, builders and other persons involved in building construction must be commenced. 292/ In most of these jurisdictions these special construction statutes of limitation act to bar suit against the parties protected after a specified period of time following completion of construction. However, these statutes usually do not shield manufacturers.

Further, some jurisdictions have also enacted or are considering enacting special product liability statutes of

292/ See pp. 223-224 infra.

limitation that are intended to terminate a manufacturer's liability after the lapse of a specified period of time after the first sale or first intended use of the product.

Thus, in most cases, in considering the feasibility of suit regarding asbestos school hazards, attention will have to be given to a number of different statutes of limitation. 293/ We first consider application of the traditional statutes of limitation, and in particular their application in cases involving claims for defective building construction; and then application of the special construction and product liability statutes of limitation.

2. Defective Building Construction Limitations

Statutes of limitation are based on public policy considerations. 294/ Their purpose is to protect defendants from the threat of stale and specious claims where

293/ Some school districts have already taken action to correct asbestos hazards existing in their schools, giving rise to additional limitations issues.

294/ "Statutes of limitation find their justification in necessity and convenience rather than logic. . . . They are by definition arbitrary, and their operation does not discriminate between the just and unjust claim, or the avoidable and unavoidable delay. . . . They represent a public policy about the privilege to litigate. . . ." Chase Sec. Corp. v. Donaldson, 325 U.S. 304, 314 (1945). See Statutes of Limitations, Developments in the Law, 63 HARV. L. REV. 1177 (1950).

"evidence has been lost, memories have faded and witnesses have disappeared or died." 295/

The statutory laws of each state normally include a wide variety of different statutes of limitation. Many states have separate statutes of limitation for tort actions and for contract actions. 296/ In a few states, there is a general or "catch-all" statute of limitation, which, except for a few specified types of action (governed by their own statutes of limitation), applies to all civil actions. 297/

The Uniform Commercial Code (U.C.C.), now adopted by all of the states (except for Louisiana), contains its own 4-year statute of limitation. 298/

295/ Order of R.R. Telegraphers v. Ry. Express Agency, Inc., 321 U.S. 342, 349 (1944).

296/ Negligence and contract statutes of limitation in the various states are summarized in Prod. Liab. Rep. (CCH) ¶3420 et seq; and in 8 Martindale-Hubbell Law Directory, Law Digests (1981).

297/ See, e.g., Me. Rev. Stat. Ann. 1964, tit. 14, §752; W.D. Cont. Code, §28-01-16; Miss. Code Ann. §15-1-49; all 6-year statutes.

298/ §2 - 725 of the Uniform Commercial Code provides in part:

1. An action for breach of any contract for sale must be commenced within four years after the cause of action has accrued. . . .

[Footnote continued on next page]

Which type of statute of limitation governs timeliness of suit in any particular case depends upon a number of factors, including the jurisdiction, the particular defendants, the legal theories under which suit is brought, and the precise nature of the injury.

a. Application

Where defective building construction occurs, the cause may be attributable to the acts of one or more of a number of persons normally involved in the typical building or construction project, e.g., architects, building or construction engineers, general contractors, subcontractors, and building material manufacturers. It is therefore not uncommon in suits brought by building owners for damages for

298/ [Footnote continued from previous page]

2. A cause of action accrues when the breach occurs, regardless of the aggrieved party's lack of knowledge of the breach. A breach of warranty occurs when tender of delivery is made, except that where a warranty explicitly extends to future performance of the goods and discovery of the breach must await the time of such performance, the cause of action accrues when the breach is or should have been discovered.

Some states, such as South Carolina and Mississippi, have provided a period of six years instead of four years.

defective building construction to include as defendants everyone involved in the construction project. 299/ However, the two cases the Department is aware of pertaining to asbestos school hazards, have been confined to manufacturers.

In determining which types of statutes of limitations apply in suits involving claims for defective construction, a review of the cases shows there is no simple formula that will apply in all jurisdictions. 300/ In some instances selection of the appropriate statutes can be quite complex. 301/

In private suits involving claims for defective construction, where suit is brought against the architect and/or general contractor in tort and for breach of contract and there are separate tort and contract statutes of

299/ See, e.g., Little Rock Sch. Dist. of Pulaski City v. Celotex Corp., 264 Ark. 757, 574 S.W. 2d 669 (1979); Grand Island Sch. Dist. v. Celotex Corp., 203 Neb. 559, 279 N.W. 2d 603 (1979); South Burlington Sch. Dist. v. Goodrich, 135 Vt. 601, 382 A.2d 220 (1977) (school districts brought actions against architects, general contractors, roofing subcontractors, and manufacturers of roofing materials to recover damages for defective roofs).

300/ Annot. 1 A.L.R. 3d 914 (1965).

301/ See, e.g., Securities-Intermountain, Inc. v. Sunset Fuel Co., 289 Or. 243, 611 P.2d 1158, 1159 (1980). (Court had to consider and select from 3 possibly applicable statutes).

limitation, both statutes may be applicable. 302/ In some jurisdictions, including, of course, those having a general or "catch-all" statute, the same statute of limitations governs both the tort claim and the breach of contract claim; 303/ although different accrual times may apply. 304/ It is not the general rule in construction cases, however, that where there is one statute of limitation for contracts and another

302/ See, e.g., Regents of Univ. of Calif. v. Hartford Accident & Indem. Co., 21 Cal. 3d 624, 630, 147 Cal. Rptr. 486, 489, 581 P.2d 197, 200 (1978); Grand Island Sch. Dist. v. Celotex Corp., 203 Neb. 559, 562, 279 N.W. 2d 603, 606 (1979); Sears, Roebuck & Co. v. Enco Assocs., Inc., 43 N.Y. 2d 389, 401 N.Y.S. 2d 767, 372 N.E. 2d 555 (1977).

303/ See, e.g., Nardo v. Guido DeAscanis & Sons, Inc., 254 A.2d 254 (Del. Super. Ct. 1969); Bd. of Educ. of H.S. Dist. No. 88 v. Joseph J. Duffy Co., 97 Ill. App. 2d 158, 240 N.E. 2d 5 (App. Ct. 1968); Golden Grain Macaroni Co. v. Klefsstad Eng'r Co., Inc., 45 Ill. App. 3d 77, 358 N.E. 2d 1295 (App. Ct. 1976). M.T. Reed Constr. Co. v. Jackson Plating Co., 222 So. 2d 838 (Miss. 1969); South Burlington Sch. Dist. v. Goodrich, 135 Vt. 601, 382 A.2d 220 (1977); Union Sch. Dist. No. 20 v. Lench, 134 Vt. 424, 365 A.2d 508 (1976).

304/ See, e.g., Nardo v. Guido DeAscanis & Sons, Inc., 254 A.2d 254 (Del. Super. Ct. 1969).

In Metal Structures Corp. v. Plains Textiles, Inc., 470 S.W. 2d 93 (Tex. Civ. App. 1971), the same tort statute of limitations governed a building owner's suit for negligence and in strict liability in tort for breach of implied warranty against a steel manufacturer for damages for collapse of a roof. However, the accrual periods for each count were different.

for tort, either of them is universally applicable to the exclusion of the other. 305/

A number of jurisdictions have statutes of limitation that specifically refer to injuries to real property, which are often applied to actions for damages for defective construction. 306/ In some of these jurisdictions these

305/ Annot., 1 A.L.R. 3d 914, 916 (1965). See, e.g., Grand Island Sch. Dist. v. Celotex Corp., 203 Neb. 550, 564, 279 N.W. 2d 603, 606 (1979) (several statutes governed where school district brought suit to recover damages resulting from leaky roof installed on junior high school against architect, general contractor, roofing subcontractor, and roofing systems manufacturer. In Sears, Roebuck & Co. v. Enco Assocs., Inc., 43 N.Y. 2d 389, 401 N.Y.S. 2d 767, 372 N.E. 2d 555 (1977), the Court of Appeals of New York held that where there was a contract between owner and architects, had suit been commenced within the three-year period applicable to tort claims, the owner would have been free to elect to sue in contract or in tort as he saw fit. However, where suit was brought after the tort statute of limitations had run, but within the six-year contract statute of limitation period, the owner could recover contract damages for breach of contract, but could not recover damages allowable in tort but not in contract. See also, Securities-Intarmountain, Inc. v. Sunset Fuel Co., 289 Or. 243, 611 P.2d 1158, 1167 (1980). But cf. Va. Military Inst. v. King, 217 Va. 751, 232 S.E. 2d 895 (1977) (action for negligence of architectural firm, while sounding in tort, is an action for breach of contract and thus governed by contract statute of limitations).

306/ See, e.g., D.C. Armory Bd. v. Volkert, 402 F.2d 215 (D.C. Cir. 1968); Korvette, Div. of Spartan Indus. v. Esko Roof. Co., 38 Ill. App. 3d 905, 350 N.E. 2d 10 (App. Ct. 1976); U.C. State Ports Auth. v. L.A. Fry Roof. Co., 294 N.C. 73, 86, 240 S.E. 2d 345, 353 (1978); Southgate Com. Sch. Dist. v. West Side Constr. Co., 399 Mich. 72, 247 N.W. 2d 884 (1976).

[Footnote continued on next page]

statutes are applied even where the defective construction involves only deterioration of building material and there is no related property damage; 307/ however, in other jurisdictions these statutes are not considered to govern in such circumstances. 308/

The courts have had occasion in several construction cases to consider the applicability of §2-725, the statute of limitations of the Uniform Commercial Code. In a number of cases where suit was brought against a contractor or subcontractor, the courts have held that §2-725 does not

306/ [Footnote continued from previous page]

In some cases these statutes may govern regardless of the legal theories upon which the action is brought, see, e.g., D.C. Armory Bd., supra, at 219; Williams v. Thompson, 443 S.W. 2d 447 (Tenn. 1969) (3-year statute of limitations for damage to property applied to action by purchasers against vendor and builder of residence for defects in construction even though suit alleged breach of implied warranty in contract of sale).

307/ See, e.g., Southgate Com. Sch. Dist. v. West Side Constr. Co., 399 Mich. 72, 247 N.W. 2d 884 (1976).

308/ See e.g., N.C. State Ports Auth. v. L.A. Fry Roof. Co., 294 N.C. 73, 86, 240 S.E. 2d 345, 353 (1978). For a similar distinction involving construction statutes of repose see notes 338, 339, infra and accompanying text.

apply. 309/ Where, however, a purchase of building materials was directly involved, §2-725 has been applied. 310/ In a suit between a building owner and a remote manufacturer the Supreme

309/ See, e.g., Aced v. Hobbs-Sosack Plumbing Co., 55 Cal. 2d 573, 12 Cal. Rptr. 257, 360 P.2d 897, 902 (1961) (court considered the applicability of the Uniform Sales Act, predecessor to the Uniform Commercial Code, and held contract was one for labor and materials and was not a contract for sale, although evidence showed breach of implied warranty of merchantability). Spoonseller v. Meltebeck, 280 Or. 361, 570 P.2d 974 (1977) (defective foundation did not involve sale of goods; special ten-year construction statute of limitations governed and barred action); De Matteo v. White, 233 Pa. Super. Ct. 339, 336 A.2d 355 (1975) (contract was for construction; general six-year limitations statute for breach of contract applied); City of Kingsport v. SCM Corp., 352 F. Supp. 288 (E.D. Tenn. 1972) (defective roof on school building arose out of construction contract rather than sales contract; three-year property damage statute of limitation applied). See also Jones & Laughlin Steel Corp. v. Johns-Manville Sales Corp., 626 F.2d 280, 290 (3d Cir. 1980).

310/ Nassau Roof. & Sheet Metal Co. v. Celotex Corp., 74 A.D. 2d 679, 424 N.Y.S. 2d 786 (App. Div. 1980) (§2-725 applicable to suit by contractor against manufacturer in suit involving defective roofing insulation); De Matteo v. White, 233 Pa. Super. Ct. 339, 336 A.2d 355 (1975) (§2-725 applied to direct purchase by home owner of defective brick involved in construction suit).

In considering whether the U.C.C. applies to a contract, the determinative question is whether the main purpose of the contract is the rendition of services with goods only incidentally involved, or a sale and purchase of goods with labor or services only incidentally involved. See e.g., Pittsburgh-Des Moines Steel Co. v. Brockhaven Manor Water Co., 532 F.2d 572, 580 (7th Cir. 1976) (one million gallon water tank fabricated by seller at factory and delivered to construction site was an article of "goods" under the Illinois U.C.C.); Schenectady Steel Co. v. Bruno Timpoli Gen. Constr. Co., Inc., 43 A.D. 2d 234, 350 N.Y.S. 2d 920 (App. Div. 1974) (contract which obligated seller to furnish and erect structural steel was contract for rendition of services, a work, labor, and materials contract, rather than contract for sale of goods, so that U.C.C. did not apply to contract).

Court of Michigan held 311/ that U.C.C. §2-725 was not meant to apply to actions between consumers and manufacturers who were never in any commercial relationship or setting, the situation that will usually exist between school districts and asbestos manufacturers. The court held that where the remote defendant manufacturer's floor tile proved defective, the three-year statute of limitations governing actions to recover damages for injuries to property applied. 312/

b. Accrual

Because of the substantial period of time that has elapsed since asbestos was last used in the nation's schools, the more important issue is not the length of a particular limitation

311/ Southgate Com. Sch. Dist. v. West Side Constr. Co., 399 Mich. 72, 247 N.W. 2d 884 (1976).

312/ Tennessee has by statute abolished any requirement for privity in all causes of action for personal injury or property damage brought on account of negligence, strict liability or breach of warranty, including actions brought under the provisions of the U.C.C. Tenn. Code Ann. §23-3004. However, in Curtis v. Murphy Elevator Co., 407 F. Supp. 940 (E.D. Tenn. 1976) (suit by building owner against remote elevator manufacturer) the court held that §23-3004 did not abolish the privity requirement in warranty actions between business entities seeking recovery for commercial losses. But see Grand Island Sch. Dist. v. Calotex Corp., 203 Neb. 559, 568, 279 N.W. 2d 603, 609 (1979) (cause of action by school district against roofing material manufacturer for breach of implied warranty that roofing system was fit for purpose intended was subject to U.C.C. §2-725).

period, but rather the date the cause of action will be deemed to have accrued. 313/ In many situations, the answer to this question may be outcome determinative. Obviously, if all of the possible applicable statutes of limitations have early accrual dates, suit may be barred under any theory of relief.

In most jurisdictions a right of action on a contract accrues when there is a breach -- the time of delivery in a sales transaction -- even though damage does not occur until later. 314/

313/ A statute of limitation begins to run when the cause of action accrues. A cause of action accrues on the date the right to institute and maintain a suit first arises. See, e.g., Rosenau v. City of New Brunswick, 51 N.J. 130, 137, 238 A.2d 169, 172 (1968). In some instances the statute of limitations may state when the cause of action accrues. Absent such a statutory provision, however, the time of accrual is for judicial determination. See, e.g., Raymond v. Eli Lilly & Co., 117 N.H. 164, 167, 371 A.2d 170, 172 (1977). While tort statutes of limitation usually allow a shorter period of time within which to bring suit after the cause of action begins to run, this doesn't necessarily mean that a plaintiff will always have more time to file suit if he goes forward on a contract theory. In many jurisdictions the cause of action accrues, i.e. the statute of limitation begins to run, at an earlier date in a contract action than it does in a tort action. Thus, in Everhart v. Rich's, Inc., 229 Ga. 798, 194 S.E. 2d 425 (1973); 128 Ga. App. 319, 196 S.E. 2d 475, the court held that while the buyer's breach of warranty cause of action was time-barred because the relevant statute of limitations accrued at the time the goods were sold, the negligence claim was not necessarily barred because that statute did not begin to run until an ascertainable injury was sustained.

314/ 18 Williston On Contracts, Third Ed. §2021A; 51 Am Jur. 2d Limitation of Actions §126 (1970).

In most states, absent fraud or concealment by the defendant, ignorance by a plaintiff of his rights or of the facts upon which his rights are based is usually not held to prevent the running of a contract statute of limitations. However, in some states in certain special cases ignorance is a ground for suspending the statutory period until the injured party knew or should have known of the operative facts. Thus, in a few jurisdictions, the statute of limitations commences to run on a warranty claim when the buyer discovers or should have discovered the injury. In other jurisdictions, the warranty is viewed as being prospective, in that it is broken only when harm is caused by its breach. 315/

The statute of limitations of the U.C.C., §2-725, confirms the general contract rule, although it recognizes the exception that where a warranty explicitly extends to future performance, discovery of the breach must await the time when the breach is or should have been discovered. 316/

315/ 18 Williston On Contracts, Third Ed. §2025C; see, e.g., Hepp Brothers, Inc. v. Evans, 420 P.2d 477, 482 (Okla. 1966).

316/ See, supra note 292.

In deciding whether a warranty has been explicitly extended to future performance the courts have defined "explicitly" to mean not being merely implied, but distinctly stated. See, e.g., Jones & Laughlin Steel Corp. v. Johns-Manville Sales Corp., 626 F.2d 280, 291 (3d. Cir. 1980).

Where suit is brought in tort there are at least four points in time at which the cause of action may be considered to have accrued: (1) when the defendant breaches a duty; (2) when the plaintiff suffers an injury; (3) when the plaintiff becomes aware of his injury; and (4) when the plaintiff discovers the causal relationship between his harm and the defendant's misconduct. 317/ In many tort cases these events will occur simultaneously and the moment of accrual is easily determinable. 318/ However in many situations, including the asbestos school hazards, there is considerable delay between the breach of duty and the resultant injury or plaintiff's discovery of his injury. This delay also occurs in

317/ Raymond v. Eli Lilly Co., 117 N.H. 164, 168, 371 A.2d 170, 172 (1977).

318/ Where recovery has been sought under the theory of strict liability in tort, the courts have applied statutes of limitations relating to breach of warranty, i.e., contract or U.C.C. statutes of limitation, or statutes of limitations governing negligence actions. This confusion has arisen because two theories, warranty and tort, have been relied upon by the courts in imposing strict liability for injuries caused by defective products. While contract statutes of limitations may in some cases offer a significant benefit to plaintiffs because they permit a longer period of time within which to file suit, such statutes may prove to be a disadvantage because a breach of implied warranty is generally regarded as occurring at the time of sale or delivery of the product causing injury.

In the majority of jurisdictions today, however, tort statutes of limitation are applied to suits based on the theory of strict liability in tort. See, e.g., Annot., 91 A.L.R. 3d 455 (1979); Kimble and Leshner, Products Liability §294 (1979).

cases involving food and drugs, professional malpractice, and the construction of improvements to real property. The delay is critical in the case of the asbestos hazards, since most actions would be barred if the applicable statutes started running at the time the products were delivered -- between nine and thirty-five years ago. 319/ In many jurisdictions, the "discovery rule" is applied in such situations; that is, the statute of limitation begins to run only when the injured party discovers, or in the exercise of reasonable diligence, should have discovered that damage or injury has occurred. The "discovery rule" has found particular application in medical malpractice and product liability suits, where it is usual for substantial periods of time to elapse between medical treatment or exposure to a product and subsequent manifestation of disease or injury. 320/ In particular, the discovery

319/ However, the accrual date of a tort cause of action based on failure to recall when the danger became obvious, would be more recent.

320/ For a general discussion of the doctrine and its application in products liability and environmental suits see Birnbaum, Statutes of Limitations in Environmental Suits: The Discovery Rule Approach, 16 Trial 38 (April 1980); Birnbaum "First Breath's" Last Case: the Discovery Rule in Products Liability Cases, 13 Forum 279 (Special Issue, Oct. 1977) Annot., 1 A.L.R. 4th 117 (1980).

The discovery rule has also been applied in non-medical professional malpractice suits. See cases collected in City of Aurora v. Bechtel Corp., 599 F. 2d 382, 388 (10th Cir. 1979) and Gates Rubber Co. v. U.S.I. Corp., 508 F.2d 603, 610 n.16 (7th Cir. 1975).

rule has been applied in the overwhelming majority of the asbestos personal injury cases. 321/

The "discovery rule" has been applied in a number of jurisdictions in suits involving claims for defective construction, even where suit is brought for breach of contract. 322/ In Illinois, although there is no

321/ See Insurance Co. of North America v. Forty Eight Insulations, Inc., 633 F.2d 1212, 1220 n.13 (6th Cir. 1980).

322/ See, e.g., Aced v. Hobbs-Sesack Plumbing Co., 55 Cal. 2d 573, 12 Cal. Rptr. 257, 360 P.2d 897 (1961) (breach of contract of an implied warranty); City of Aurora v. Bechtel Corp., 599 F.2d 382 (10th Cir. 1979) (construing Colo. Law) (professional malpractice suit against architect-engineer); Chrischilles v. Grisvold, 260 Iowa 453, 150 N.W. 2d 94 (1967) (negligence suit against architect); Steelworkers Holding Co. v. Menefee, 255 Md. 440, 258 A.2d 177 (1969) (negligence suit against architect and general contractor); Southgate Com. Sch. Dist. v. West Side Constr. Co., 399 Mich. 72, 247 N.W. 2d 884 (1976) (products liability suit against remote manufacturer); Grand Island Sch. Dist. v. Celotex Corp., 203 Neb. 559, 279 N.W. 2d 603 (1979) (applicable to tort action against architect and general contractor); A.J. Aberman, Inc. v. Funk Bldg. Corp., ____ Pa. Super. Ct. ____, 420 A.2d 594 (1980). The discovery rule has also been applied in construction cases involving injuries to third parties. See, e.g., Totten v. Gruzen, 52 N.J. 202, 245 A.2d 1 (1968) (negligence suit by third party for damages for personal injury against architects, heating contractor, general contractor, and public housing authority).

It should be noted that in Grand Island, supra, the school district also brought suit against the roofing system manufacturer for: (1) breach of an implied warranty that the roofing system was fit for the purpose intended, and (2) on the ground that the manufacturer was negligent in manufacturing, testing and marketing the roofing materials. The Court held

[Footnote continued on next page]

all-encompassing discovery rule, 323/ in recent cases involving defective construction claims, the courts have been applying a "balancing test", i.e., the "discovery rule" applies where the passage of time would not greatly increase the problems of proof nor increase the dangers of false, frivolous, fraudulent, or speculative claims. 324/

However, the accrual date for a cause of action for architectural malpractice depends in some situations upon the nature of the alleged tortious conduct. Thus, where the tortious conduct is alleged to be negligent and improper

322/ [Footnote continued from previous page]
that suit was barred against the manufacturer under §2-725 of the U.C.C., since suit was not brought within 4 years of delivery. As to the negligence count, the Court held it only stated a cause of action for ordinary negligence and did not fall within the category of causes to which the discovery rule was applicable under Nebraska's construction statute of limitations, and it was therefore governed by the 4-year statute of limitations for tort actions which ran from date of accrual and not from date of its later discovery.

323/ Gates Rubber Co. v. USM Corp., 508 F.2d 603 (7th Cir. 1975).

324/ See, e.g., Golden Grain Macaroni Co. v. Klefstad Eng'g Co., Inc., 45 Ill. App. 3d 77, 358 N.E. 2d 1295 (App. Ct. 1976); Korvette, Div. of Spartan Indus. v. Esko Roof. Co., 38 Ill. App. 3d 905, 350 N.E. 2d 10 (App. Ct. 1976); Soc. of Mt. Carmel v. Fox, 31 Ill. App. 3d 1060, 335 N.E. 2d 588 (1975).

design, it has been held that the cause of action accrues when the plans are finally approved. 325/

In many jurisdictions where suit is brought in tort seeking damages for defective construction, the cause of action accrues at the time construction is completed, 326/ while in other

325/ See, e.g., City of Newark v. Edward H. Richardson Ass'n, 375 A.2d 475 (Del. Super. Ct. 1977) (cause of action for damages caused by collapse of drainage ditch accrued when defective design presented); Wellston Co. v. Sam N. Hodges, Jr. & Co., 114 Ga. App. 424, 151 S.E. 2d 481 (Ct. App. 1966) (alleged negligent design and construction or building in and of itself constituted a legal injury and right of action accrued at time of the acts); Va. Military Inst. v. King, 217 Va. 751, 232 S.E. 2d 895 (1977) (action for negligent and improper design of building against architects governed by contract statute of limitations; cause of action accrued when defective plans for building were finally approved), Fed. Reserve Bank of Richmond v. Wright, 392 F. Supp. 1120 (E.D. Va. 1975) (cause of action for breach of architect's obligation to exercise reasonable skills, ability and judgment in preparation of plans accrued on date defective plans delivered); McCloskey & Co., Inc. v. Wright, 363 F. Supp. 223 (E.D. Va. 1973); (cause of action for breach of architect's duty to provide proper plans accrued at tender of defective plans; contract statute of limitation applied). See generally Annot. 90 A.L.R. 3d 507 (1979).

326/ Wellston Co. v. Sam N. Hodges, Inc., 114 Ga. App. 424, 151 S.E. 2d 481 (Ct. App. 1966); J.T. Reed Constr. Co. v. Jackson Plating Co., 222 So.2d 838 (Miss. 1969) (cause of action for defective roof accrued no later than date of completion and delivery of building); Sears, Roebuck & Co. v. Enco Assocs., Inc., 43 N.Y. 2d 389, 401 N.Y.S. 2d 767, 372 N.E. 2d 555 (1977); Hills v. Black and West, Architects, 344 P.2d 581 (Okla. 1959) (cause of action against architects for failure to exercise professional skill and care in performing services under contract accrued at time building was completed and accepted, tort statute of limitation apparently governed).

jurisdictions the cause of action accrues at the time of the resulting injury. 327/

Similarly, where a breach of contract action is brought, in many jurisdictions the cause of action accrues at the time of the breach, viz., no later than completion of construction. 328/

327/ Nardo v. Guido DeAscanis & Sons, Inc., 254 A.2d 254 (Del. Super. Ct. 1969) (tort action accrued at the time of injury resulting from defendant's negligence in improperly installing roof rafters); Crawford v. Shepherd, 86 Wisc. 2d 362, 272 N.W. 2d 401 (Ct. App. 1978) (in action for architectural negligence cause of action began to run on the date of injury not on date of negligence; roof began to rot several years after alleged negligent construction).

For an interesting example showing how different accrual times are applied in construction cases having different plaintiff-defendant relationships but essentially the same operative facts, compare Wellston Co. v. Sam W. Hodges, Jr. & Co., 114 Ga. App. 424, 151 S.E. 2d 481 (Ct. App. 1966) with Hunt v. Star Photo Finishing Co., 115 Ga. App. 1, 153 S.E. 2d 602 (Ct. App. 1967). Both cases involved the collapse of the same type of roof in different buildings where the roofs were negligently designed by the same architect-engineer. In Wellston, where the building owner sued, the statute of limitations began to run, not when the roof collapsed, but when the building was constructed. In Hunt, where a lessee sued for damages suffered to his personal property, the statute of limitations began to run when the roof of the second building later collapsed.

328/ Nardo v. Guido DeAscanis, 254 A.2d 254, (Del. Super. Ct. 1969) (contract action accrued when roof rafters improperly installed); Roberts v. Richard & Sons, Inc., 113 N.H. 154, 304 A.2d 364 (1973) (count in tort alleging negligent performance of building contract and claiming as damages costs of remedying defects was in reality action for breach of contract and cause of action for breach of contract accrued when building was complete and not when defects were later discovered); Sears, Roebuck & Co. v. Enco Assocs., Inc., 43 N.Y. 2d 389, 401 N.Y.S. 2d 767, 372 N.E. 2d 555 (1977); N.C.

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In Metal Structures Corp. v. Plains Textiles, Inc., 329/ a building owner brought suit for damages in negligence and strict liability for breach of implied warranty against a remote steel manufacturer whose steel frames were used in the construction of plaintiff's building. One of the steel frames failed and part of the roof collapsed. The court held that a two-year statute of limitations applied to both counts with, however, different accrual periods applying to each count. The cause of action based on negligence accrued at the time of installation of the defective steel frames, while the cause of action for breach of implied warranty accrued when the buyer discovered, or in the exercise of ordinary care should have discovered the injury. 330/

328/ [Footnote continued from previous page]
State Ports Auth. v. L.A. Fry Roof. Co., 294 N.C. 73, 240 S.E. 2d 345 (1978) (new construction statute of limitations, however, adopts discovery rule where defect is not readily apparent at time of origin); Shipp v. O'Dowd, 454 S.W. 2d 845 (Tex. Civ. App. 1970) (cause of action to recover damages for failure to construct residence with number of foundation piers specified in plans and specifications accrued at time of construction); Va. Military Inst. v. King, 217 Va. 751, 232 S.E. 2d 895 (1977) (breach of contractual duty to supervise construction accrued at time of construction), see also Fed. Reserve Bank of Richmond v. Wright, 392 F. Supp. 1120 (E.D. Va. 1975).

In Vermont, the rule is the same under the six-year statute of limitations which is applicable to both tort and contract actions. South Burlington Sch. Dist. v. Goodrich, 135 Vt. 601, 392 A.2d 220 (1977); Union Sch. Dist. No. 20 v. Lench, 134 Vt. 424, 365 A.2d 508 (1976).

329/ 470 S.W. 2d 93 (Tex. Civ. App. 1971).

330/ The court spoke of there being a "sale" between the remote manufacturer and the owner; however, from the opinion it is not clear if there indeed was a direct sale.

In general, however, it should be possible to argue that logically, a tort cause of action predicated on failure to warn does not accrue until the defect, which should have been the subject of warning, manifests itself. In other words, a school district's strict liability and negligence claims predicated on the failure of asbestos manufacturers to warn of the dangers of asbestos fibers should not be held to have accrued until the school district learned, or should have learned, of the danger.

Further, under certain circumstances the statute of limitation may be tolled. Thus, where there is a fraudulent concealment or misrepresentation of facts giving rise to a cause of action, or where the gist of an action is fraud concealed from plaintiff, the statute of limitations does not commence to run until discovery of the wrong or of facts placing one on notice of the wrong. 331/ The fraud or misrepresentation, however, must be intentional and affirmative in nature and intended to prevent discovery of facts giving rise to a cause of action. Generally, where the defendant owes

331/ See, e.g., Gates Rubber Co. v. USM Corp., 351 F. Supp. 329, 337 (S.D. Ill. 1972); 37 Am. Jur. 2d Fraud and Deceit §5405-407 (1968); 51 Am. Jur. 2d Limitation of Actions §147 (1970).

no duty to disclose, mere silence or failure to disclose a fact will not constitute fraudulent concealment. 332/

3. Special Statutes Of Limitation Governing Construction Litigation

In addition to the traditional statutes of limitation; more than forty jurisdictions have special statutes of limitation governing suits involving defective design and construction claims. 333/ Most of these statutes, however, do not insulate manufacturers. The main purpose of these statutes is

332/ See, e.g., Gates Rubber Co. v. USM Corp., 351 F. Supp. 329, 337 (S.D. Ill., 1972); Hardo v. Guido DeAscanis & Sons, Inc., 254 A.2d 254 (Del. Super. Ct. 1969); 51 Am. Jur. 2d Limitations of Actions 55147-149 (1970). In some jurisdictions where efforts are made by defendants to repair defects, the statute is also tolled so long as representations are made that the repairs will be sufficient to cure the defects. See, e.g., Little Rock Sch. Dist. v. Celotex Corp., 264 Ark. 757, 574 S.W. 2d 663 (1975); Weeks v. Slavik Builders, Inc., 24 Mich. App. 621, 180 N.W. 2d 503, aff'd 384 Mich. 257, 191 N.W. 2d 271 (1970) (six-year statute of limitation began to run from time it was determined that repairs would not correct leaking roof, not from time roof first began to leak). There are cases to the contrary, however. See discussion and cases collected in A.J. Aberman, Inc. v. Funk Bldg. Corp., Pa. Super. Ct. _____, at _____, 420 A.2d 594 at 602 (1980).

333/ For a general discussion and list of these special statutes of limitation see: Comment, Limitation of Action Statutes for Architects and Builders-Blueprints for Non-action, 18 CALIF. U.L. REV. 361 (1969); Rogers, The Constitutionality of Alabama's Statute of Limitations for Construction Litigation: The Legislature Strikes Again, 11 CUM. L. REV. 1 (1980); Collins, Limitation of Action Statutes for Architects and Builders-An Examination of Constitutionality, 29 Fed'n Ins. Couns. Q 41 (1978); Knapp & Lee, Jr., Application of Special Statutes of Limitations Concerning Design and Construction, 23 ST. LOUIS L.J. 351 (1979). See also Annot., 73 A.L.R. 3d 1242 (1979).

to impose a time limitation beyond which suit relating to a design or construction claim cannot be brought against architects and builders. 334/ California distinguishes between claims based upon patent deficiencies and latent deficiencies; for the former there is a four-year limitation period, for the latter a ten-year period. 335/

The persons protected by these statutes varies from jurisdiction to jurisdiction. The Supreme Court of California has recently held that sureties are not included within the protection of California's 10-year construction statute; 336/ however, a New Jersey court has held to the contrary with regard to New Jersey's counterpart statute. 337/ In some jurisdictions protection under the statutes is

334/ See, e.g., N.J. Stat. Ann. §2A:14-1.1 (West) (no action whether in contract, tort, or otherwise to recover damages for any deficiency in the design, planning, supervision, or construction of an improvement to real property shall be brought more than 10 years after the performance of services and construction). Statutes of limitation that run from the date of a specific defendant's act, rather than from the time a plaintiff's cause of action accrues, are often characterized as statutes of repose.

335/ Cal. Civ. Proc. Code §§337.1, 337.15 (Deering). See, e.g., Ernest W. Hahn, Inc. v. Superior Court, 108 Cal. App. 3d 567, 166 Cal. Rptr. 644 (Ct. App. 1980). A "latent deficiency" is defined in the California statute as "a deficiency which is not apparent by reasonable inspection."

336/ Regents of the Univ. of Calif. v. Hartford Acc. & Indem'n Co., 21 Cal. 3d 624, 147 Cal. Rptr. 486, 581 P.2d 197 (1978).

337/ County of Hudson v. Terminal Constr. Corp., 154 N.J. Super. 264, 381 A.2d 355 (App. Div. 1977).

specifically limited to certain persons. 338/ Although in most jurisdictions, architects, engineers, general contractors, and subcontractors would be protected by these statutes; 339/ it does not appear that materialmen, suppliers, and manufacturers of materials used in construction would be protected. 340/

In some states these statutes, while fixing a maximum time period beyond which suit is barred, also provide a shorter time period within which an action must be brought following accrual of the cause of action. 341/ In most states, however, these statutes are designed to provide a cut-off period beyond

338/ Maine's statute, for instance, only applies to civil actions against duly licensed or registered architects or engineers. Me. Rev. Stat. Ann. tit. 14, §752-A (Supp. 1977).

339/ 29 Fed'n Ins. Couns. ¶., supra note 327 at 49 and 23 St. LOUIS L.J. supra note 327 at 353.

340/ 23 ST. LOUIS L.J., supra note 327 at 354. In Howell v. Burk, 90 N.H. 688, 568 P.2d 214, 223 (Ct. App.), cert. denied, 91 N.H. 3, 569 P.2d 413 (1977), the court held that materialmen were excluded from protection under the New Mexico statute.

The Virginia statute expressly exempts manufacturers from protection. Va. Code §8.01-250 (1977). Exclusion of certain persons under the statutes has been the basis for constitutional challenge in a number of jurisdictions. See note 340 and accompanying text infra.

341/ See, e.g., Me. Rev. Stat. Ann. tit. 14, §752-A (Supp. 1977) (actions for malpractice or professional negligence against licensed architects or engineers must be commenced within 4 years of discovery but in no event more than 10 years after substantial completion of construction contract or of services performed if construction contract not involved).

which no claim involving a defective design or construction can be brought. 342/ Statutes of this type are intended only to set an outside time limitation beyond which suit may not be brought. They do not extend the time periods of the traditional statutes of limitations that are generally applied in construction suits, but rather are superimposed on them. 343/

In a number of jurisdictions the courts have held that where the construction statute of limitation speaks in terms of actions for injury to persons or property the statute only applies to tort suits by third parties against those performing or furnishing the allegedly defective construction or design, but does not apply to suits by the owner for damages for deficiency in the construction itself. 344/ However, in

342/ See, e.g., N.J. Stat. Ann. 2A:14-1.1 (West) (10 years).

343/ See, e.g., Benning Constr. Co. v. Lakeshore Plaza Enterprises, Inc., 240 Ga. 426, 241 S.E. 2d 184 (1977); O'Connor v. Altus, 67 N.J. 106, 335 A.2d 545 (1975); Smith v. American Radiator & Standard Sanitary Corp., 38 N.C. App. 457, 248 S.E. 2d 462 (1978); A.J. Aberman, Inc. v. Funk Bldg. Corp., Pa. Super. Ct., 420 A.2d 594 (1980); Watts v. Putnam County, 525 S.W. 2d 488 (Tenn. 1975); Va. Military Inst. v. King, 217 Va. 751, 232 S.E. 2d 895 (1977).

344/ See, e.g., Duncan v. Schuster-Graham Homes, Inc., 194 Colo. 441, 578 P.2d 637 (1978); Tambllyn v. Hickey & Fox, Inc., 195 Colo. 354, 578 P.2d 641 (1978); Rittson County v. Wells, Denbrook & Assoc., Inc., 308 Minn. 237, 241 N.W. 2d 799 (1976); Securities-Intermountain, Inc. v. Sunset Fuel Co., 289 Or. 243, 611 P.2d 1158 (1980).

other jurisdictions, the statute is broadly worded to cover actions by the owner against those protected by the statute. 345/

These construction statutes of limitation, or statutes of repose, have been frequently challenged on constitutional grounds. At least eight state courts have held such statutes unconstitutional, while at least thirteen others have upheld such statutes. 346/

4. Special Products Liability Statutes Of Limitation

Various statutes have been enacted or proposed in some jurisdictions to terminate a product manufacturer's liability after the lapse of specified periods of time after the product is first sold or first used for its intended purpose. 347/

345/ See, e.g., N.J. Stat. Ann. 2A:14-1.1 (West) and Pa. Stat. Ann. tit. 12 §65.1 (Purdon 1977).

See also Duncan v. Schuster-Graham Homes, Inc., 194 Colo. 441, 578 P.2d 637, 640 n.5 (1978).

346/ Alabama, Hawaii, Illinois, Kentucky, Minnesota, Oklahoma, South Carolina and Wisconsin have declared their special statutes unconstitutional.

However, Oklahoma, and Wisconsin have reenacted legislation to cure the constitutional defects.

For a discussion of the constitutionality issues and the relevant state citations see supra note 327 11 CUM. L. REV., at 16; Collins; and 23 ST. LOUIS L.J. at 363.

347/ For a discussion of product liability statutes of repose see, When The Product Ticks: Products

[Footnote continued on next page]

As with the special construction statutes of limitation discussed above, some of these product liability statutes only act to impose an outer limit or ceiling upon existing statutes of limitation. 348/ Others, like some of the construction statutes of limitation, set two time periods: one period within which to bring suit and another beyond which no suit can be brought. Thus, in Connecticut, a products liability suit must be brought within three years of discovery of injury, but no later than eight years from the purchase date of the product. 349/

The Illinois statute, on the other hand, applies only to strict liability actions; 350/ while the Colorado statute only raises a rebuttable presumption of non-defectiveness where suit is brought 10 years after the product is first sold. 351/

347/ [Footnote continued from previous page]
Liability and Statutes of Limitations, 11 IND. L. REV. 693 (1978); Statutes of Repose in Products Liability: The Assault Upon the Citadel of Strict Liability, 23 S.D.L. REV. 149 (1978). For a summary of product liability statutes of limitation and repose see Prod. Liab. Rep. (CCH), footnotes to ¶3420 and 4 Product Liability Trends 388 et. seq. (1980). See also the Model Uniform Product Liability Act (UPLA), reprinted in 44 Fed. Reg. 62, 714-750 (1979).

348/ See, e.g., Buckner v. GAF Corp., 495 F. Supp. 351, 355 (E.D. Tenn. 1979) (explaining Tennessee statute).

349/ Conn. Gen. Stat. Ann. §52-577a (West).

350/ Ill. Rev. Stat. ch. 83, §22.2.

351/ Colo. Rev. Stat. §§13-21-401-13-21-405.

These statutes have acted to bar suits against manufacturers filed after the prescribed time periods. 352/ Whether the relatively few product liability statutes of repose now in effect will withstand attack on constitutional grounds (see p. 227, supra) remains to be seen.

5. Legislative Extension of Limitation Periods

It is a well established general rule that as to causes of action that are not already time-barred, the legislature has the power to enlarge the period of limitations governing existing causes of action. 353/ A majority of the cases, however, are to the effect that the legislature cannot remove a statutory bar to a cause of action that has already become complete. 354/ There are, however, a few cases to the contrary. 355/

352/ See, e.g., Buckner v. GAF Corp., 495 F. Supp. 351 (E.D. Tenn. 1979) (suit for personal injuries sustained from exposure to asbestos products); Diamond v. E.R. Squibb & Sons, Inc., 366 So. 2d 1221 (Fla. Dist. Ct. App. 1979) (suit for injuries caused by drug).

353/ 51 Am. Jr. 2d Limitation of Actions §40 (1970); 16 C.J.S. Constitutional Law §266a (1956); 53 C.J.S. Limitations of Actions §2 (1948).

354/ 51 Am. Jur. 2d Limitation of Actions §544, 45, 46 (1970).

See, e.g., Ford Motor Co. v. Moulton, 511 S.W. 2d 690 (1974), cert. denied, 419 U.S. 870 (1974), Grand Island Sch. Dist. v. Celotex Corp., 203 Neb. 559, 279 N.W. 2d 603 (1979); N.C. State Ports Auth. v. L.A. Fry Roof. Co., 294 N.C. 73, 240 S.E. 2d 345, 352 (1978).

355/ See, e.g., Twomey v. Carlton House of Providence, Inc., 113 R.I. 264, 320 A.2d 98 (1974).

Limitation Conclusion

As was indicated at the outset, it is not possible to state definite answers to limitation issues in a general survey of this kind. However, it is appropriate to observe that under a "discovery" or "manifestation" cause of action accrual rule, a school district could persuasively contend that tort limitation periods should not commence to run until the district learned, or should have learned, of the danger posed by friable asbestos products. It may prove noteworthy in this regard that the Asbestos School Hazard Detection and Control Act was not enacted until June 14, 1980, and only since then have school districts been directed by competent national authority to detect asbestos hazards in the schools.

